```
10 PRINT TAB( 27);"ROADRACE"
15 PRINT
20 PRINT TAB( 15);"CREATIVE COMPUTING  MORRISTOWN NEW JERSEY"
30 PRINT
40 PRINT
50 PRINT
100 PRINT        THIS IS THE PITTSFIELD-ALBANY ROAD RALLY"
120 PRINT
130 PRINT "WELCOME TO THE FIRST ANNUAL PITTSFIELD-ALBANY ROAD RALLY."
140 PRINT "YOU'LL BE DRIVING ROUTE 20, TRYING TO WIN THE RACE AND"
150 PRINT "STAY ALIVE IN THE BARGIN. GOOD LUCK!!"
160 PRINT
170 PRINT "YOY HAVE YOUR CHOICE OF: (1) A VW; (2) 283 NOVA;"
180 PRINT "(3) Z-28; OR (4) FERRARI"
190 PRINT
200 PRINT "CHOOSE THE CAR YOU WANT BY THE NUMBER IN FRONT OF IT."
210 PRINT "REMEMBER, THE BETTER THE CAR, THE MORE GAS IT USES."
220 PRINT "WHICH CAR";
230 INPUT C1
240 LET C1=INT(C1)
250 IF C1 > 4 THEN 280
260 IF C1 < 1 THEN 280
270 GOTO 300
280 PRINT "INVALID CAR NUMBER. NEW CAR ";
290 GOTO 230
300 PRINT
310 IF N2=1 THEN 345
320 PRINT "NOW YOU CHOOSE WHICH COURSE YOU WANT TO RACE ON."
330 PRINT "THE EASIEST COURSE IS NUMBER 1, AND IS THE STRAIGHTEST"
340 PRINT "ROUTE. NUMBER 5 CONSISTS MOSTLY OF TURNS AND TWISTS."
345 PRINT "WHICH ROUTE DO YOU WANT";
350 INPUT C2
360 LET C2=INT(C2)
380 IF C2 < 1 THEN 410
390 IF C2 > 5 THEN 410
400 GOTO 430
410 PRINT "INVALID COURSE NUMBER. NEW CHOICE ";
420 GOTO 350
430 IF N2=1 THEN 490
435 PRINT
440 PRINT "YOU WILL NEED TO TRAVEL 5 MILES WITH  5 GALLONS OF GAS."
450 PRINT "YOUR STATUS WILL BE SHOWN EACH 10 SECONDS. AFTER EACH "
460 PRINT "STATUS CHECK YOU WILL BE ASKED FOR A NEW RATE OF GAS. "
470 PRINT "A RATE OF +10 IS HARD ACCELERATION, AND -10 IS HARD BRAKING."
480 PRINT "ANY NUMBER IN BETWEEN IS ALLOWABLE."
490 FOR I=1 TO C1
500 READ B,M,S
510 LET B=B/10
520 NEXT I
530 LET A1=.5
540 LET M1=0
550 LET C1=C1/2
560 LET V=0
570 PRINT
580 LET R1=0
590 LET T=0
600 LET D=0
610 LET Q1=0
620 PRINT "PRESENT VELOCITY =";V;" NO. OF GALLONS =";A1
630 PRINT "NO. OF MILES =";M1;" TIME PASSED =";T;"SECONDS"
640 IF M1>= 5 THEN 1460
650 PRINT "WHAT IS YOUR NEW RATE OF GAS";
660 INPUT G
670 IF G < -10 THEN 700
680 IF G > 10 THEN 700
690 GOTO 720
700 PRINT "NOT VALID. NEW RATE";
710 GOTO 660
720 IF G < 9 THEN  780
730 LET Z=Z+1
740 IF Z> 4 THEN 760
750 GOTO 790
760 PRINT "YOUR ENGINE BLEW. YOU GOT HIT BY A PISTON."
770 GOTO 1270
780 LET Z=0
790 LET V=INT(B*G-M*V+V)
800 LET T=T+10
810 PRINT
820 PRINT "ROAD CONDITIONS:";
830 IF V > 0 THEN 850
840 LET V=0
850 LET M1=M1+V/460
860 IF G<0 THEN 890
870 LET A1=A1-(G*S)/5000
880 IF A1< 0 THEN 1380
890 IF R1=1 THEN 1050
900 IF Q1=1 THEN 980
910 LET Q=INT((C2+1)*RND(1))
920 LET R=INT((3.75-C2)*RND(1))
930 IF R > 0 THEN 1290
940 IF Q > 0 THEN 1340
950 PRINT "CLEAR AND STRAIGHT"
960 PRINT
970 GOTO 620
980 LET H=INT(15+35*RND(1))
990 LET H=H+5*C1
1000 IF V>H THEN 1500
1010 PRINT "THROUGH CURVE"
1020 PRINT
1030 LET Q1=0
1040 GOTO 620
1050 LET E=E-(V-D)*3
1060 IF E < 0 THEN 1100
1070 PRINT "VECHICLE";E;"FEET AHEAD"
1080 PRINT
1090 GOTO 620
1100 IF V-D < 5 THEN 1180
1110 PRINT "VECHICLE PASSED BY";
1120 LET D=V-D
1130 PRINT D;
1140 PRINT "MPH"
1150 PRINT
1160 LET R1=0
1170 GOTO 620
1180 PRINT "VECHICLE BEING PASSED "
1190 LET D=INT(25+40*RND(1))
1200 PRINT "GREYHOUND BUS IN OTHER LANE ";
1210 PRINT "DOING";
1220 PRINT D;
1230 PRINT "MPH ";
1240 LET D=V+D
1250 PRINT "CRASH VELOCITY =";D
1260 PRINT
1270 PRINT "WHERE IS YOUR FUNERAL BEING HELD?"
1280 GOTO 1560
1290 PRINT "VECHICLE AHEAD 1000 FEET"
1300 PRINT
1310 LET D=INT(25+35*RND(1))
1320 LET R1=1
1330 GOTO 620
1340 PRINT " WARNING: CURVE AHEAD "
1350 LET Q1=1
1360 PRINT
1370 GOTO 620
1380 PRINT "EXCELLENT, BUT WAIT!"
1390 PRINT
1400 PRINT "YOU RAN OUT OF GAS"
1410 GOTO 1550
1420 PRINT "BUT SOME HOW YOU MADE IT"
1430 PRINT
1440 LET R1=0
1450 GOTO 620
1460 PRINT
1470 PRINT
1480 PRINT "YOU MADE IT (LUCKY) !!!!!!!"
1490 GOTO 1560
1500 PRINT "ARE TERRIBLE"
1510 LET H=H-5*C1
1520 PRINT H;"WAS THE SPEED THROUGH THE CURVE"
1530 PRINT V;"WAS YOUR SPEED, BY THE WAY ";
1540 GOTO 1270
1550 PRINT "YOU LEAD FOOTED $%&''%$&$&&((&$&$'$($(($&'%#%##%%%"
1560 PRINT:PRINT "YOU WANT TO TRY AGAIN, RIGHT";
1580 INPUT V$
1590 IF LEFT$(V$,1)="N" THEN 1620
1600 N2=1
1610 GOTO 1640
1620 PRINT:PRINT "CHICKEN":PRINT
1630 GOTO 1700
1640 RESTORE
1650 GOTO 220
1660 DATA 45,.53,10
1665 DATA 60,.5,13
1670 DATA 70,.41,15
1680 DATA 80,.39,18
1700 END
```

Rotate (로테이션)

'15 게임'이라는 퍼즐을 알고 있는가? 1부터 15까지의 숫자가 씌어 있는 플라스틱 판을 움직여서 숫자를 차례대로 배열해 가는 놀이이다. 이 게임은 그 '15 게임'과 비슷하다.

게임은, 4×4의 판 안에 A부터 P까지 16개의 알파벳이 제멋대로 흩어져 있는 상태에서 시작한다. 이것을, 왼쪽 위부터 알파벳순으로 되도록 바꿔 나열하면 되는데, 숫자 움직이는 법이 '15 게임'과는 좀 다르다. 당신은 한 번에, 똑같은 각도를 이루는 4개의 문자를 시계 도는 방향으로 한 개씩 회전(rotation)시킬 수 있다. 이것을 몇 번이고 반복해서 목적을 달성하는 것이다. 판의 왼쪽 위부터 차례대로 1, 2, 3, ……15, 16으로 번호를 붙여 놓았으니, 컴퓨터에는 움직이고 싶은 4문자 그룹의 왼쪽 위의 번호를 입력하기 바란다.

이 게임에서는, 서로 이웃한 글자를 한 번 바꿀 수 있는데, 이 방법은 너무 일찍 사용하지 않는 것이 좋다. 사용하지 않아도 되는 경우도 있고, 사용했기 때문에 오히려 좋지 않게 되는 경우가 있을지도 모른다. 대개는 20회 내지 30회로 되리라 생각한다.

Rotate was written by me, David Ahl, and first appeared in *Creative Computing*, Sep/Oct 1977.

```
5 PRINT TAB( 26);"ROTATE"
8 PRINT TAB( 20);"CREATIVE COMPUTING"
10 PRINT TAB( 18);"MORRISTOWN, NEW JERSEY":PRINT:PRINT:PRINT
11 DIM B(16),B$(16)
12 INPUT "INSTRUCTIONS";A$:PRINT:IF LEFT$(A$,1)="N" THEN 140
15 PRINT:PRINT "IN THIS GAME THE BOARD IS LAID OUT AS FOLLOWS:"
25 FOR I=1 TO 16:B(I)=I:NEXT
30 PRINT:FOR I=1 TO 13 STEP 4
35 PRINT USING "## ";B(I),B(I+1),B(I+2),B(I+3)
40 NEXT I:PRINT
45 PRINT "BOARD POSITIONS ARE OCCUPIED RANDOMLY BY THE LETTERS A TO P."
50 PRINT "THE OBJECT OF THE GAME IS TO ORDER THE LETTERS BY ROTATING"
55 PRINT "ANY FOUR LETTERS CLOCKWISE ONE POSITION.  YOU SPECIFY THE"
60 PRINT "UPPER LEFT POSITION OF THE FOUR YOU WISH TO ROTATE, I.E.,"
65 PRINT "VALID MOVES ARE 1, 2, 3, 5, 6, 7, 9, 10 AND 11."
66 PRINT:PRINT:LINE INPUT "ENTER 'RETURN' TO CONTINUE. ";X$:PRINT CHR$(26)
70 PRINT "CONSEQUENTLY, IF THE BOARD LOOKED LIKE:"
75 FOR I=1 TO 16:B$(I)=CHR$(I+64):NEXT:B$(2)="C":B$(3)="G"
80 B$(6)="B":B$(7)="F":GOSUB 400
85 PRINT "AND YOU ROTATED POSITION 2, THE BOARD WOULD BE:"
90 FOR I=2 TO 7:B$=CHR$(I+64):NEXT I:GOSUB 400
95 PRINT "AND YOU WOULD WIN!"
96 PRINT:PRINT:LINE INPUT "ENTER 'RETURN' TO CONTINUE. ";X$:PRINT CHR$(26)
100 PRINT "YOU ALSO GET ONE 'SPECIAL' MOVE PER GAME WHICH YOU MAY OR"
105 PRINT "MAY NOT NEED.  THE SPECIAL MOVE ALLOWS YOU TO EXCHANGE"
110 PRINT "ANY TWO ADJACENT LETTERS IN A ROW.  TO MAKE THIS MOVE,"
115 PRINT "INPUT A '-1' AS YOUR MOVE AND YOU WILL BE ASKED FOR THE"
120 PRINT "POSITIONS OF THE TWO LETTERS TO EXCHANGE.  REMEMBER --"
125 PRINT "ONLY ONE SPECIAL MOVE PER GAME!":PRINT
130 PRINT "TO GIVE UP AT ANY TIME, TYPE A '0'.":
    PRINT "TO QUIT ENTIRELY, TYPE '99'.":PRINT:PRINT "GOOD LUCK !":PRINT
140 FOR I=1 TO 16:B$(I)="0":NEXT I
150 FOR I=1 TO 16
160 T$=CHR$(INT(16*RND(1)+65))
165 FOR J=1 TO I
170 IF B$(J)=T$ THEN 160
175 NEXT J
180 B$(I)=T$:NEXT I
190 M=0:S=0:PRINT "HERE'S THE STARTING BOARD...":GOSUB 400
200 INPUT "POSITION TO ROTATE";I:IF I=0 THEN PRINT:PRINT:GOTO 140 ELSE
    IF I=99 THEN RUN "MENU"
205 IF I=-1 THEN 510
210 IF I=4 OR I=8 OR I>12 THEN PRINT "ILLEGAL.  AGAIN...":GOTO 200
220 M=M+1:T$=B$(I)
230 B$(I)=B$(I+4):B$(I+4)=B$(I+5):B$(I+5)=B$(I+1):B$(I+1)=T$
240 GOSUB 400
305 FOR I=1 TO 16
310 IF CHR$(I+64)<>B$(I) THEN 200
315 NEXT I
320 PRINT:PRINT "YOU ORDERED THE BOARD IN";M;"MOVES.":M1=M1+M:G=G+1
325 PRINT CHR$(7)
330 PRINT:INPUT "PLAY AGAIN";A$:IF LEFT$(A$,1)="Y" THEN 140
340 PRINT:PRINT "YOU PLAYED";G;"GAMES AND ORDERED THE BOARD IN AN AVERAGE"
350 PRINT "OF";M1/G;"MOVES PER GAME.":PRINT:GOTO 999
400 PRINT:FOR I=1 TO 13 STEP 4
410 PRINT USING " ! ";B$(I),B$(I+1),B$(I+2),B$(I+3)
420 NEXT I:PRINT:RETURN
510 INPUT "EXCHANGE WHICH TWO POSITIONS";X,Y
520 IF X<>Y+1 AND X<>Y-1 THEN PRINT "ILLEGAL.  AGAIN...":GOTO 510
530 S=S+1:IF S>1 THEN PRINT "ONLY ONE SPECIAL MOVE PER GAME.":GOTO 200
540 T$=B$(X):B$(X)=B$(Y):B$(Y)=T$:GOTO 240
999 END
```

```
RUN
                          ROTATE
                    CREATIVE COMPUTING
                  MORRISTOWN, NEW JERSEY


INSTRUCTIONS? YES   설명이 필요합니까?

IN THIS GAME THE BOARD IS LAID OUT AS FOLLOWS: 보드는 다음과 같이
                                               되어 있습니다.
  1   2   3   4
  5   6   7   8
  9  10  11  12
 13  14  15  16

BOARD POSITIONS ARE OCCUPIED RANDOMLY BY THE LETTERS A TO P.
THE OBJECT OF THE GAME IS TO ORDER THE LETTERS BY ROTATING
ANY FOUR LETTERS CLOCKWISE ONE POSITION.  YOU SPECIFY THE
UPPER LEFT POSITION OF THE FOUR YOU WISH TO ROTATE, I.E.,
VALID MOVES ARE 1, 2, 3, 5, 6, 7, 9, 10 AND 11.
CONSEQUENTLY, IF THE BOARD LOOKED LIKE: 만일 이러한 상태인 때

A C G D
E B F H
I J K L
M N O P

AND YOU ROTATED POSITION 2, THE BOARD WOULD BE: 2 라고 지정하면,
                                                 아래와 같이 되어

A B C D
E F G H
I J K L
M N O P

AND YOU WOULD WIN !  승리합니다.

YOU ALSO GET ONE 'SPECIAL' MOVE PER GAME WHICH YOU MAY OR
MAY NOT NEED.  THE SPECIAL MOVE ALLOWS YOU TO EXCHANGE
ANY TWO ADJACENT LETTERS IN A ROW.  TO MAKE THIS MOVE,
INPUT A '-1' AS YOUR MOVE AND YOU WILL BE ASKED FOR THE
POSITIONS OF THE TWO LETTERS TO EXCHANGE.  REMEMBER --
ONLY ONE SPECIAL MOVE PER GAME!  특별히 한 번만 서로 떨어져 있는 글자와 바꿀
                                 수 있습니다. 그 때에는 '-1'을 입력합니다.
TO GIVE UP AT ANY TIME, TYPE A '0'.  바꾼 후에는 '0'을
                                     입력합니다.
GOOD LUCK !

HERE'S THE STARTING BOARD...   맨 처음은 아래와 같습니다.

E O C L
K G M A
F I P J
H N D B

POSITION TO ROTATE? 3  어느 부분을 움직이겠습니까?

E O M C
K G A L
F I P J
H N D B
```

Later in the Game

```
POSITION TO ROTATE? 2

E G O C
K A M L
F I P J
H N D B

POSITION TO ROTATE? 1

K E O C
A G M L
F I P J
H N D B

POSITION TO ROTATE? 1

A K O C
G E M L
F I P J
H N D B

POSITION TO ROTATE? 11

A K O C
G E M L
F I D P
H N B J

POSITION TO ROTATE? 10

A K O C
G E M L
F N I P
H B D J

POSITION TO ROTATE? 10

A K O C
G E M L
F B N P
H D I J

POSITION TO ROTATE? 6

A K O C
G B E L
F N M P
H D I J

POSITION TO ROTATE? 2

A B K C
G E O L
F N M P
H D I J

POSITION TO ROTATE? 10

A B K C
G E O L
F D N P
H I M J

POSITION TO ROTATE? 6

A B K C
G D E L
F N O P
H I M J

POSITION TO ROTATE? 6

A B K C
G N D L
F O E P
H I M J

POSITION TO ROTATE? 7

A B K C
G N E D
F O P L
H I M J

POSITION TO ROTATE? 3

A B E K
G N D C
F O P L
H I M J

POSITION TO ROTATE? 3

A B D E
G N C K
F O P L
H I M J

POSITION TO ROTATE? 3

A B C D
G N K E
F O P L
H I M J

POSITION TO ROTATE? 7

A B C D
G N P K
F O L E
H I M J

POSITION TO ROTATE? 7

A B C D
G N L P
F O E K
H I M J

POSITION TO ROTATE? 6

A B C D
G O N P
F E L K
H I M J

POSITION TO ROTATE? 5

A B C D
F G N P
E O L K
H I M J

POSITION TO ROTATE? 5

A B C D
E F N P
O G L K
H I M J

POSITION TO ROTATE? 10

A B C D
E F N P
O I G K
H M L J

POSITION TO ROTATE? 9

A B C D
E F N P
H O G K
M I L J

POSITION TO ROTATE? 9

A B C D
E F N P
M H G K
I O L J

POSITION TO ROTATE? 11

A B C D
E F N P
M H L G
I O J K

POSITION TO ROTATE? 10

A B C D
E F N P
M O H G
I J L K

POSITION TO ROTATE? 7

A B C D
E F H N
M O G P
I J L K

POSITION TO ROTATE? 7

A B C D
E F G H
M O P N
I J L K

POSITION TO ROTATE? 10

A B C D
E F G H
M J O N
I L P K

POSITION TO ROTATE? 11

A B C D
E F G H
M J P O
I L K N

POSITION TO ROTATE? 10

A B C D
E F G H
M L J O
I K P N

POSITION TO ROTATE? 9

A B C D
E F G H
I M J O
K L P N

POSITION TO ROTATE? 9

A B C D
E F G H
K I J O
L M P N

POSITION TO ROTATE? 11

A B C D
E F G H
K I P J
L M N O

POSITION TO ROTATE? 11

A B C D
E F G H
K I N P
L M O J

POSITION TO ROTATE? 10

A B C D
E F G H
K M I P
L O N J

POSITION TO ROTATE? 11

A B C D
E F G H
K M N I
L O J P

POSITION TO ROTATE? 11

A B C D
E F G H
K M J N
L O P I

POSITION TO ROTATE? 10

A B C D
E F G H
K O M N
L P J I

POSITION TO ROTATE? 11

A B C D
E F G H
K O J M
L P I N

POSITION TO ROTATE? 9

A B C D
E F G H
J I K P
M L N O

POSITION TO ROTATE? 10

A B C D
E F G H
J L I P
M N K O

POSITION TO ROTATE? 9

A B C D
E F G H
M J I P
N L K O

POSITION TO ROTATE? 10

A B C D
E F G H
M L J P
N K I O

POSITION TO ROTATE? 10

A B C D
E F G H
M K L P
N I J O

POSITION TO ROTATE? 10

A B C D
E F G H
M I K P
N J L O

POSITION TO ROTATE? 9

A B C D
E F G H
N M K P
J I L O

POSITION TO ROTATE? 9

A B C D
E F G H
J N K P
I M L O

POSITION TO ROTATE? 9

A B C D
E F G H
I J K P
M N L O

POSITION TO ROTATE? 11

A B C D
E F G H
I J L K
M N O P

POSITION TO ROTATE? -1
EXCHANGE WHICH TWO POSITIONS? 11,12
```

어느 것과 어느 것을 바꾸겠읍니까?

```
A B C D
E F G H
I J K L
M N O P

YOU ORDERED THE BOARD IN 66  MOVES.
```

66수로 완료.

```
PLAY AGAIN? NO
```

다시 한 번 하겠읍니까?

```
YOU PLAYED 1  GAMES AND ORDERED THE BOARD IN
AN AVERAGE OF 66  MOVES PER GAME.
```

한 게임 했으므로 당신의 평균은 66수입니다.

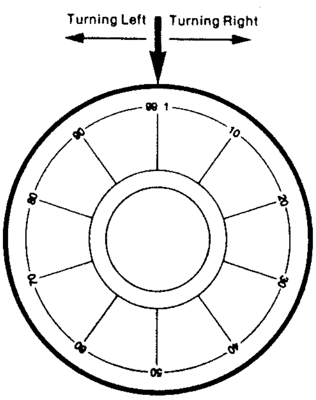
```
OK
```

Safe (금고털기)

이 게임은 말하자면 좀 색다른 숫자 알아맞히기 게임이라 할 수 있다. 당신은 1부터 99까지의 수로 된 다이얼을 좌우로 돌리거나 비틀거나 해서 금고를 열기 바란다. 당신이 금고를 여는 동안, 경찰이 오는 것을 센서가 감지하기도 한다. sample run은 성공한 예이다.

이 게임에 성공할 수 있는 비결은, 오른쪽부터 공격할 때에는 99부터 시작한다는 것이다. 철컥하는 소리가 당신의 숫자에 가까이 와 있다는 신호이다. 철컥하는 소리가 나지 않으면, 날 때까지 8이나 10눈금씩 숫자를 작게 해 간다.

Safe was created and written by Kevin Ashley.



NOTE: There is no spot 0 (zero) and it spins back past the last number automatically as in most locks.

```
RUN
                        SAFE
                  CREATIVE COMPUTING
                 MORRISTOWN, NEW JERSEY


DO YOU WANT DIRECTIONS? YES 설명이 필요합니까?


YOU ARE A BURGULAR AND HAVE ENCOUNTERED A SAFE.  YOU  MUST
OPEN THE SAFE TO GET THE SECRET PLANS THAT YOU  CAME FOR.
TO DO THIS , YOU MUST ENTER THE NUMBER OF WHAT YOU WANT THE
 DIAL TURNED TO, THE COMPUTER WILL ACT AS THE SAFE AND WILL
HELP YOU BY GIVING A SORT OF CLUE, THAT IS YOU WILL'HEAR'
A CLICK AT EVENLY SPACED NOTCHES AS YOU  MOVE TO THE PROPER
NUMBER.  THERE ARE FOUR OF THEM BEFORE THE FINAL CLICK IS
'HEARD'. AFTER THE FINAL ONE IS HEARD, YOU WILL GO ON TO
THE NEXT NUMBER.  THE COMPUTER WILL'SAY' 'CLICK' FOR EACH
NOTCH THAT YOU PASS AND '**CLICK**' WHEN  YOU REACH THE
PROPER NUMBER.  IF YOU PASS IT OR TAKE LONGER THAN TEN TRIES
ON ANY ONE NUMBER, YOU WILL ACTIVATE THE ALARM.
REMEMBER THAT WHEN YOU TURN THE DIAL TO THE LEFT, THE
NUMBERS GO FROM 1 -99 ,AND WHEN YOU GO TO THE RIGHT, THE
NUMBERS GO FROM 99-1
OKAY, START TO THE RIGHT,  SHHHHHH!!!!!!!!!!!!!!
ARE YOU READY? YES
OKAY, THEN LET'S START  자, 시작합시다.
? 89
? 79
CLICK  철컥!
? 69
CLICK
? 59
CLICK
CLICK
? 49
CLICK
CLICK
CLICK
? 35
CLICK
CLICK
CLICK
CLICK
? 32
CLICK
CLICK
CLICK
CLICK
```

```
? 30
CLICK
CLICK
CLICK
CLICK
? 29
CLICK
CLICK
CLICK
CLICK
? 27
CLICK
CLICK
CLICK
CLICK
THE SENSOR HAS BEEN TRIGGERED
LEAVE WHILE YOU CAN BEFORE THE
POLICE GET HERE.
WANT TO TRY THE SAME SAFE? YES
ARE YOU READY? YES
OKAY, THEN LET'S START
? 25
CLICK
CLICK
CLICK
CLICK
? 23
CLICK
CLICK
CLICK
CLICK
```

센서가 감지했읍니다.

경찰이 오기 전에 도망해야 합니다.

같은 금고에 도전하겠읍니까?

```
? 19
THE SENSOR HAS BEEN TRIGGERED
LEAVE WHILE YOU CAN BEFORE THE
POLICE GET HERE.
WANT TO TRY THE SAME SAFE? YES
ARE YOU READY? YES
OKAY, THEN LET'S START
? 21
** CLICK **
AND NOW TO THE LEFT
? 5
CLICK
CLICK
CLICK
CLICK
? 10
? 30
? 50
? 60
? 70
? 80
? 90
? 95
? 97
THE SENSOR HAS BEEN TRIGGERED
LEAVE WHILE YOU CAN BEFORE THE
POLICE GET HERE.
WANT TO TRY THE SAME SAFE? YES
ARE YOU READY? YES
OKAY, THEN LET'S START
? 21
** CLICK **
AND NOW TO THE LEFT
? 1
CLICK
CLICK
CLICK
CLICK
? 5
? 6
? 7
? 8
? 12
? 14
? 16
? 18
** CLICK **
AND NOW TO THE RIGHT AGAIN
? 95
CLICK
CLICK
CLICK
? 89
CLICK
? 83
** CLICK **...YOU OPENED IT
BUT OH,OH, HE MUST HAVE MOVED IT
TRY THE ONE OVER THERE
OKAY, START TO THE RIGHT,  SHHHHHH!!!!!!!!!!!!!!
ARE YOU READY? NO
Ok
```

철컥! 열렸읍니다.

```
1 PRINT CHR$(26);TAB( 20)"SAFE"
2 PRINT TAB( 20)"CREATIVE COMPUTING"
3 PRINT TAB( 18)"MORRISTOWN, NEW JERSÉY"
4 PRINT
5 PRINT
6 PRINT
10 DIM A1(4)
20 PRINT"DO YOU WANT DIRECTIONS";
30 INPUT A$
40 IF LEFT$(A$,1)="Y" THEN 80
50 IF LEFT$(A$,1)="N" THEN 250
60 PRINT"ANSWER YES OR NO."
70 GOTO 20
80 PRINT
90 PRINT
100 PRINT"YOU ARE A BURGULAR AND HAVE ENCOUNTERED A SAFE. YOU MUST"
110 PRINT"OPEN THE SAFE TO GET THE SECRET PLANS THAT YOU CAME FOR."
115 PRINT
120 PRINT"TO DO THIS, YOU MUST ENTER THE NUMBER OF WHAT YOU WANT THE"
130 PRINT"DIAL TURNED TO. THE COMPUTER WILL ACT AS THE SAFE AND WILL"
140 PRINT"HELP YOU BY GIVING A SORT OF CLUE:  YOU WILL 'HEAR'"
150 PRINT"A CLICK AT EVENLY SPACED NOTCHES AS YOU MOVE TO THE PROPER"
160 PRINT"NUMBER. THERE ARE FOUR OF THEM BEFORE THE FINAL CLICK IS"
170 PRINT"'HEARD'. AFTER THE FINAL ONE IS HEARD, YOU WILL GO ON TO"
180 PRINT"THE NEXT NUMBER. THE COMPUTER WILL 'SAY' 'CLICK' FOR EACH"
190 PRINT"NOTCH THAT YOU PASS AND '**CLICK**' WHEN YOU REACH THE"
200 PRINT"PROPER NUMBER. IF YOU PASS IT OR TAKE LONGER THAN TEN TRIES"
210 PRINT "ON ANY ONE NUMBER, YOU WILL ACTIVATE THE ALARM." 
215 PRINT
220 PRINT"REMEMBER THAT WHEN YOU TURN THE DIAL TO THE LEFT, THE"
230 PRINT"NUMBERS GO FROM 1-99 ,AND WHEN YOU GO TO THE RIGHT, THE"
240 PRINT"NUMBERS GO FROM 99-1.":PRINT:PRINT
250 PRINT"OKAY, START TO THE RIGHT,  SHHHHHH!!!!!!!!!!!!!!"
260 A=INT(RND(1)*81)+10
270 B=INT(RND(1)*81)+10
280 C=INT(RND(1)*81)+10
290 PRINT"ARE YOU READY";
300 INPUT A$
310 IF LEFT$(A$,1)="Y" THEN 340
320 IF A$<>"WHAT"THEN 990
330 PRINT A;B;C
340 L=100-A
350 FOR M=1 TO 4
360 A1(M)=(5-M)*L/5+A
370 NEXT M
380 J=1
390 PRINT:PRINT"OKAY, THEN LET'S START:"
400 INPUT M
410 ON SGN(M-A)+2 GOTO 500,570,420
420 FOR K=1 TO 4
430 IF M>A1(K) THEN 460
440 PRINT"CLICK"
460 NEXT K
470 IF J>=10 THEN 500
480 J=J+1
490 GOTO 400
500 PRINT"THE SENSOR HAS BEEN TRIGGERED!"
510 PRINT"LEAVE WHILE YOU CAN BEFORE THE"
520 PRINT"POLICE GET HERE."
530 PRINT:PRINT"WANT TO TRY THE SAME SAFE";
540 INPUT A$
550 IF LEFT$(A$,1)="Y" THEN 280
560 GOTO 250
570 PRINT"** CLICK **"
580 L=L+B
590 FOR K=1 TO 4
600 A1(K)=K*L/5+B
610 NEXT K
620 PRINT"AND NOW TO THE LEFT."
630 J=1
640 INPUT M
650 ON SGN(M-A)+2 GOTO 660,500,680
660 ON SGN(M-B)+2 GOTO 670,760,500
670 M=M+100
680 FOR K=1 TO 4
690 IF M<A1(K) THEN 720
700 PRINT"CLICK"
710 A1(K)=200
720 NEXT K
730 IF J>=10 THEN 500
740 J=J+1
750 GOTO 640
760 PRINT"** CLICK **"
770 L=(100-C)+B
780 FOR K=1 TO 4
790 A1(K)=B+100-K*L/5
800 NEXT K
810 PRINT"AND NOW TO THE RIGHT AGAIN."
820 J=1
830 INPUT M
840 ON SGN(M-B)+2 GOTO 860,500,850
850 ON SGN(M-C)+2 GOTO 500,950,870
860 M=M+100
870 FOR K=1 TO 4
880 IF M>A1(K) THEN 910
890 PRINT"CLICK"
900 A1(K)=-200
910 NEXT K
920 IF J>=10 THEN 500
930 J=J+1
940 GOTO 830
950 PRINT:PRINT"** CLICK **... YOU OPENED IT!"
960 PRINT"BUT UH,OH, HE MUST HAVE MOVED IT."
970 PRINT"TRY THE ONE OVER THERE."
980 GOTO 250
990 END
```

Schmoo (스크모)

스크모란, 흙탕물에 흠뻑 젖기를 아주 좋아하는 상상의 생물이다. 당신은 스크모에게 진흙 공을 던져 그를 즐겁게 해 주면 된다. 게임에 대한 힌트를 준다. X,Y 좌표와 같이, 2, −3은, 오른쪽으로 2, 아래쪽으로 3이라는 의미이다. 만일, 0°가 양의 X축과 일치하는 각도라면, 2, −3은 제4사분면 (270°∼360°)에 해당한다.

당신이 게임을 잘한다면, 8회의 시도로 스크모를 흙탕물에 흠뻑 젖게 할 수 있다. 게으름을 피우거나, 프로그램 어느 곳에 있는 계산식을 이용하면 안 된다.

이 게임을 더 재미있게 하고 싶으면, 스크모를 뛰게 하면 좋을 것이다. 그러나, 프로그램을 더 까다롭게 해서는 안 된다. 게임을 쉽게 하려면 스크모를 정지시켜 각도와 함께 속도도 결정하도록 하면 어떨까. 또, 스크모를 저중력판(달세계 version)으로 하는 것도 재미있을 것이다.

Schmoo was conceived and written by Frederick H. Bell at the University of Pittsburgh. It first appeared in *Creative Computing*, Sep/Oct 1975.

```
RUN
                    SCHMOO
 CREATIVE COMPUTING  MORRISTOWN NEW JERSEY


THIS IS A NEW SCHMOO GAME.  SCHMOOS
ARE IMAGINARY CREATURES WHO LOVE
BEING SPLATTED WITH JUICY MUD BALLS.
YOU, BEING A SCHMOO LOVER, TRY TO
MAKE SCHMOOS HAPPY BY TOSSING MUD
BALLS AT THEM.  YOU HAVE A
MECHANICAL MUD SLINGER THAT WILL
SLING MUD TO A MAXIMUM DISTANCE
OF 46,500 INCHES. YOUR JOB IS TO
SET THE MUD SLINGER AT THE CORRECT
ELEVATION (0 TO 90) AND THE CORRECT
DIRECTIONAL ANGLE (0 TO 360) TO SPLAT THE
SCHMOO.  A HIT WITHIN 100 INCHES OF THE SCHMOO
WILL SPLATTER HIM.

  스크모가 있는 좌표는 (29007, 9760).
COORDINATES OF THE SCHMOO ARE ( 29007 , 9760 ).

MUD SLINGER ELEVATION? 39   흙을 던지는 높이는?
DIRECTIONAL ANGLE OF MUD SLINGER? 34  방향은?
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 37707 , 25433 ).   실패.
                                  스크모의 위치는
  당신이 던진 흙의 위치는           (29007, 9760)
  (37707, 25433)

MUD SLINGER ELEVATION? 23
DIRECTIONAL ANGLE OF MUD SLINGER? 31
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 28671 , 17227 ).

MUD SLINGER ELEVATION? 12
DIRECTIONAL ANGLE OF MUD SLINGER? 30
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 16379 , 9456 ).

MUD SLINGER ELEVATION? 18
DIRECTIONAL ANGLE OF MUD SLINGER? 27
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 24352 , 12408 ).

MUD SLINGER ELEVATION? 20
DIRECTIONAL ANGLE OF MUD SLINGER? 25
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 27088 , 12631 ).

MUD SLINGER ELEVATION? 20
DIRECTIONAL ANGLE OF MUD SLINGER? 21
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 27903 , 10711 ).

MUD SLINGER ELEVATION? 22
DIRECTIONAL ANGLE OF MUD SLINGER? 20
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 30353 , 11047 ).

MUD SLINGER ELEVATION? 21
DIRECTIONAL ANGLE OF MUD SLINGER? 17
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 29754 , 9096 ).

MUD SLINGER ELEVATION? 20
DIRECTIONAL ANGLE OF MUD SLINGER? 18
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 28426 , 9236 ).

MUD SLINGER ELEVATION? 21
DIRECTIONAL ANGLE OF MUD SLINGER? 18
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 29591 , 9614 ).

MUD SLINGER ELEVATION? 20
DIRECTIONAL ANGLE OF MUD SLINGER? 19
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 28260 , 9730 ).

MUD SLINGER ELEVATION? 22
DIRECTIONAL ANGLE OF MUD SLINGER? 18
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 30720 , 9981 ).

MUD SLINGER ELEVATION? 21
DIRECTIONAL ANGLE OF MUD SLINGER? 17.5
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 29673 , 9356 ).

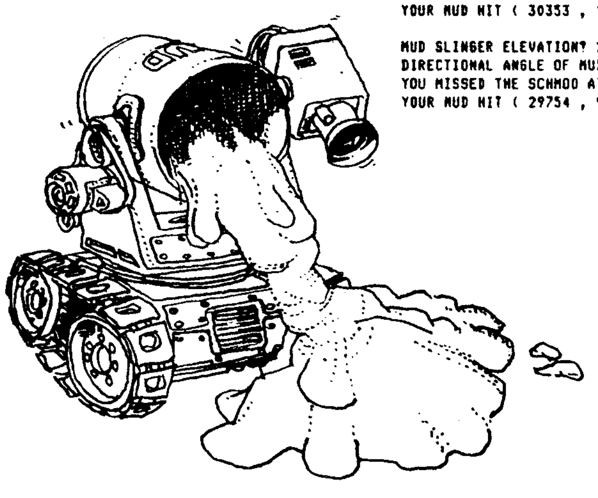
MUD SLINGER ELEVATION? 21
DIRECTIONAL ANGLE OF MUD SLINGER? 18.4
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 29523 , 9821 ).

MUD SLINGER ELEVATION? 21
DIRECTIONAL ANGLE OF MUD SLINGER? 18.8
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 29454 , 10026 ).

MUD SLINGER ELEVATION? 20
DIRECTIONAL ANGLE OF MUD SLINGER? 18.6
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 28327 , 9533 ).

MUD SLINGER ELEVATION? 20.3
DIRECTIONAL ANGLE OF MUD SLINGER? 18.87
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 28633 , 9786 ).

MUD SLINGER ELEVATION? 20.5
DIRECTIONAL ANGLE OF MUD SLINGER? 18.87
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 28866 , 9866 ).
```



```
MUD SLINGER ELEVATION? 20.68
DIRECTIONAL ANGLE OF MUD SLINGER? 18.73
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 29098 , 9866 ).

MUD SLINGER ELEVATION? 20.68
DIRECTIONAL ANGLE OF MUD SLINGER? 18.69
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 29105 , 9846 ).

MUD SLINGER ELEVATION? 20.68
DIRECTIONAL ANGLE OF MUD SLINGER? 18.71
YOU MISSED THE SCHMOO AT ( 29007 , 9760 ).
YOUR MUD HIT ( 29102 , 9856 ).

MUD SLINGER ELEVATION? 20.62
DIRECTIONAL ANGLE OF MUD SLINGER? 18.71
*SCHMOO SPLATTED* 22  MUD BALLS TOSSED.  스크므가 흙
                                         범벅이 되었읍니다.

I SEE ANOTHER SCHMOO.  TO SPLAT  다른 스크므를 발견.
HIM, TYPE MUD.  TO QUIT, TYPE QUIT.  흙을 던지자. 빨리……

? MUD

COORDINATES OF THE SCHMOO ARE ( 6529 , 9167 ).
THE SCHMOO IS HAPPY TO BE SPLATTED.
TO MAKE YOU HAPPY TOO,
HE WILL THROW MUD AT YOU.

MUD SLINGER ELEVATION? 47
DIRECTIONAL ANGLE OF MUD SLINGER? 47
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 31635 , 33924 ).

SCHMOO MUD HIT  1010 INCHES FROM YOU.
MUD SLINGER ELEVATION? 10
DIRECTIONAL ANGLE OF MUD SLINGER? 47
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 10845 , 11630 ).

SCHMOO MUD HIT  910 INCHES FROM YOU.
MUD SLINGER ELEVATION? 7
DIRECTIONAL ANGLE OF MUD SLINGER? 51
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 7079 , 8742 ).

SCHMOO MUD HIT  1155 INCHES FROM YOU.
MUD SLINGER ELEVATION? 7.2
DIRECTIONAL ANGLE OF MUD SLINGER? 54
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 6797 , 9355 ).

SCHMOO MUD HIT  786 INCHES FROM YOU.
MUD SLINGER ELEVATION? 7.1
DIRECTIONAL ANGLE OF MUD SLINGER? 53.2
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 6832 , 9133 ).

SCHMOO MUD HIT  171 INCHES FROM YOU.
MUD SLINGER ELEVATION? 6.9
DIRECTIONAL ANGLE OF MUD SLINGER? 53.2
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 6643 , 8880 ).

SCHMOO MUD HIT  380 INCHES FROM YOU.
MUD SLINGER ELEVATION? 6.89
DIRECTIONAL ANGLE OF MUD SLINGER? 53.4
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 6603 , 8892 ).

SCHMOO MUD HIT  750 INCHES FROM YOU.
MUD SLINGER ELEVATION? 6.86
DIRECTIONAL ANGLE OF MUD SLINGER? 53.57
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 6548 , 8872 ).

SCHMOO MUD HIT  1219 INCHES FROM YOU.
MUD SLINGER ELEVATION? 6.91
DIRECTIONAL ANGLE OF MUD SLINGER? 53.54
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 6600 , 8933 ).

SCHMOO MUD HIT  1579 INCHES FROM YOU.
MUD SLINGER ELEVATION? 6.89
DIRECTIONAL ANGLE OF MUD SLINGER? 53.52
YOU MISSED THE SCHMOO AT ( 6529 , 9167 ).
YOUR MUD HIT ( 6585 , 8905 ).

THE SCHMOO HAS SPLATTED YOU!  스크므가 당신을 흙 범벅으로
CLEAN UP AND GOODBYE!         만들었읍니다. 목욕이나!
Ok
```

```
10 PRINT TAB( 30);"SCHMOO"
20 PRINT TAB( 15);"CREATIVE COMPUTING  MORRISTOWN NEW JERSEY"
21 PRINT
22 PRINT
30 PRINT "THIS IS A NEW SCHMOO GAME.  SCHMOOS"
32 PRINT "ARE IMAGINARY CREATURES WHO LOVE"
34 PRINT "BEING SPLATTED WITH JUICY MUD BALLS."
36 PRINT "YOU, BEING A SCHMOO LOVER, TRY TO"
38 PRINT "MAKE SCHMOOS HAPPY BY TOSSING MUD"
40 PRINT "BALLS AT THEM.  YOU HAVE A"
42 PRINT "MECHANICAL MUD SLINGER THAT WILL"
44 PRINT "SLING MUD TO A MAXIMUM DISTANCE"
46 PRINT "OF 46,500 INCHES. YOUR JOB IS TO"
50 PRINT "SET THE MUD SLINGER AT THE CORRECT"
55 PRINT "ELEVATION (0 TO 90) AND THE CORRECT"
60 PRINT "DIRECTIONAL ANGLE (0 TO 360) TO SPLAT THE"
65 PRINT "SCHMOO.  A HIT WITHIN 100 INCHES OF THE SCHMOO"
70 PRINT "WILL SPLATTER HIM."
75 PRINT
90 PRINT
100 K1=0
110 Z=INT(1+RND(1)*4-1E-08)
120 ON Z GOTO 130,140,150,160
130 P=-1
135 Q=-1
138 GOTO 200
140 P=-1
145 Q=1
148 GOTO 200
150 P=1
155 Q=-1
158 GOTO 200
160 P=1
165 Q=1
200 X=(INT(26000*RND(1)+5000))*P
210 Y=(INT(26000*RND(1)+5000))*Q
220 S=0
230 K1=K1+1
240 IF K1 < 2 THEN 400
250 R=INT(7*RND(1)+5)
260 GOTO 400
300 PRINT "THE ELEVATION MUST BE BETWEEN 1 AND 90."
310 GOTO 500
320 PRINT "DIRECTIONAL ANGLE MUST BE FROM 0 TO 360."
340 GOTO 500
350 PRINT "*SCHMOO SPLATTED*";S;"MUD BALLS TOSSED."
351 PRINT
352 PRINT "I SEE ANOTHER SCHMOO.  TO SPLAT"
354 PRINT "HIM, TYPE MUD.  TO QUIT, TYPE QUIT."
356 PRINT
358 INPUT C$
360 IF C$="MUD" THEN 110
361 STOP
362 PRINT "YOU MISSED THE SCHMOO AT (";X;",";Y;")."
364 PRINT "YOUR MUD HIT (";INT(X1);",";INT(Y1);")."
366 PRINT
370 IF K1 < 2 THEN 500
380 IF S >= R THEN 800
390 PRINT "SCHMOO MUD HIT";R2;"INCHES FROM YOU."
395 GOTO 500
400 PRINT
410 PRINT "COORDINATES OF THE SCHMOO ARE (";X;",";Y;")."
415 IF K1 < 2 THEN 420
417 PRINT "THE SCHMOO IS HAPPY TO BE SPLATTED."
418 PRINT "TO MAKE YOU HAPPY TOO,"
419 PRINT "HE WILL THROW MUD AT YOU."
420 PRINT
500 PRINT "MUD SLINGER ELEVATION";
502 INPUT B
504 PRINT "DIRECTIONAL ANGLE OF MUD SLINGER";
506 INPUT C
520 IF B = 90 THEN 700
530 IF B > 90 THEN 300
540 IF B < 1 THEN 300
550 IF C < 0 THEN 320
560 IF C > (360-(1E-08)) THEN 320
570 S=S+1
580 IF K1 < 2 THEN 595
590 R2=INT(ABS(300*RND(1)*(11-2*S))+90)
595 J=3.1415926535#/180
596 D=ABS(INT(93000!*SIN(B*J)*COS(B*J)))
610 X1=D*COS(C*3.1415926535#/180)
620 Y1=D*SIN(C*3.1415926535#/180)
630 D1=SQR((X-X1)^2+(Y-Y1)^2)
640 IF 100 >= D1 THEN 350
650 GOTO 362
700 PRINT "YOU DOPE!  YOU SPLATTED YOURSELF."
710 GOTO 900
800 PRINT "THE SCHMOO HAS SPLATTED YOU!"
802 PRINT "CLEAN UP AND GOODBYE!"
900 END
```

Seabattle (해전 게임)

이 해전 게임은 아주 간단하다. 당신은 영역 안의 적함을 모두 찾아내어 격침하는 임무를 띤 잠수함의 함장이다. 어뢰, 폴라리스(polaris) 미사일, 파괴, 자폭(自爆) 등 어떤 방법을 사용하든지 상관없다. 적함도 당신의 잠수함을 격침하려고 폭뢰로 공격해 온다. 또, 해저 폭뢰가 날아오는 일도 있다. 그 밖에도, 잠수함 샌드위치를 좋아하는 굶주린 바다 괴물이 당신을 먹으려 하고 있다.

이 프로그램은 약 2년간에 걸쳐 작성된 것이다. 물론, 2년간을 줄곧 계속한 것은 아니다. 4~6개월 동안 손을 대지 않은 때도 있었다. 우선 간단한 것을 만든 다음, 점차로 기능을 추가했다.

보는 바와 같이 프로그램이 매우 길다. 메모리 용량이 부족해서 곤란하다면, REM문과 같은 코맨드(Command)나 옵션(option)을 삭제하면 된다.

이 프로그램은 HP 2000에 맞게 프로그램한 것으로, 두세 가지 특례가 있다. 문자열은 72문자까지 디멘션이 허용된다. 문자열의 위치는 2개의 숫자로 표시되어 있다. A$(2, 4)의 경우, A$는 문자열의 이름이고, 괄호 안은 두 번째 문자부터 substring이 시작하여 4번째 문자로 끝난다는 것을 나타낸 것이다. 그러므로, A$(1, 1)은 A$의 첫번째 문자를 뜻한다. 이 프로그램에서는 이것을 YES, NO의 답을 'Y'와 'N'으로 나타내는 데에 사용했다.

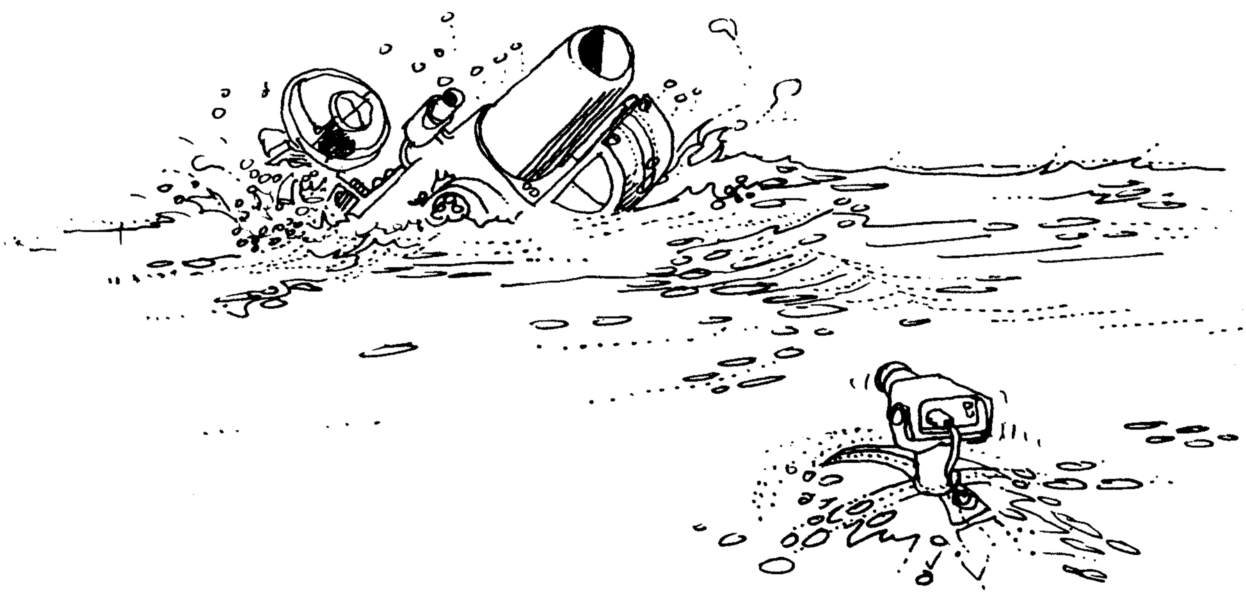
590행은 논리 연산의 예이다. A(S3, S4)가 0이 아니면 570행으로 진행하고, 0이면 다음 행으로 진행한다.

3020행~3050행에는 논리 연산의 좀 다른 형태가 나와 있다. 여기서는 논리적 수치가 계산되어, 그것이 조건에 맞으면 1로 세트되고, 맞지 않으면 0으로 세트된다. 이들은 IF~THEN 형식의 경우에도 마찬가지이다.

이 프로그램에서는, 게임을 재미있게 하기 위해 난수 함수를 많이 사용했다. 프로그램이 너무 길다고 포기하지 않기 바란다.

※ Vincest Erickson은 오리지널의 HP version에 관해서 쓰고 있는데, 여기서 설명하는 프로그램은 Standard Microsoft Basic 판(版)이다. 90행~230행에 Steve North convert note를 적어 두었다.

● 이것은 해전 게임이다. 잠수함 병기고에 있는 여러 가지 무기를 사용하여, 당신의 영역(20×20)에 침입해 오는 적함을 격침한다. 적을 격침하지 않으면 당신이 당하니까.
● 이 게임에는 재미있는 위험이 숨어 있다.



예를 들면,

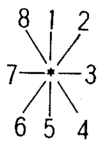
• 근접한 적함으로부터의 폭뢰 공격.
• 굶주린 바다 괴물.
• 숨겨져 있는 수뢰(水雷)

● 폭뢰 공격은 아무리 깊은 곳에서도 가능하다. 그러나 거리가 멀수록 효과가 약해지니, 다른 함정으로부터 떨어져 있을수록 좋다. 바다 괴물은 영역 안까지 어슬렁어슬렁 침입해서 당신을 공격하므로 꽤 위험하다. 그리고 당신의 수뢰까지 먹으려 한다. 하지만 미사일로 퇴치할 수 있다.

● 적함은 장애물이 없는 한 점점 다가온다. 그리고 당신과 마찬가지로 수뢰나 괴물에 당하게 된다.

● 당신은 다음과 같은 10가지 명령을 내릴 수 있다.

#0 : NAVIGATION——당신은, 당신의 영역내에서 원하는 대로 지정 방향, 거리로 진행할 수 있다. 방향은 왼쪽 그림과 같이 결정한다. 여덟 방향이 있는데, 당신은 '어떤 경로가 좋은가' 하고 질문 받았을 때 대답하는 것과 똑같은 요령으로 방향을 정한다. 예를 들어 북으로 진행하고 싶은 경우에는 코스 # 1이라 입력하는 것이다. 컴퓨터는 또 진행 power를 물어 온다. 1해역을 진행할 때마다 100유니트 필요한데, 1000유니트를 초과해서 달리도록 하면 과부하의 위험이 있으므로 세심한 주의가 필요하다.



#1 : SONAR——이 코맨드(Command)는 사용 방법이 두 가지이다. 옵션(option) #1은 적함이 있는 방향과 거리를 나타내는 방향 지시이다. 적함이 바로 위에 있을 때에는 별로 신통하지 않지만, 거리 공격에는 적합하다.

● 옵션(option) #0는 당신의 구역을 그림으로 표시한다. '*'는 육지, '$'는 수뢰, '\S/'는 적함, '-#-'는 바다 괴물, '!H!'는 아군 사령부, '(X)'는 당신 자신을 나타낸다.

● 자주 '·'가 화면에 나타난다. 이것은 음파 반사로, 목적물은 아니다. 만약 50피트 이상이면 파도는 '·'로 나타난다.

#2 : TORPEDO CONTROL——10개의 수뢰 중에서 하나를 발사할 수 있다. 컴퓨터는 위의 그림대로 발포할 방향을 구한다. 하나의 수뢰는 1척의 함정을 격침할 수 있다.

#3: POLARIS MISSILE CONTROL——적에게 미사일을 발사할 수 있다. 컴퓨터가 코스와 연료를 물어 온다. 미사일을 1스페이스 날리는 데에 75파운드의 연료를 소비한다. 이 미사일은 상당히 강력하여, 명중한 구역은 물론 인접한 구역도 모두 파괴해 버린다.

#4 : MANUEVERING——잠수 심도를 바꿀 수 있다. 심하게 피격되었을 때 이것을 사용하면 편리하다. 2500피트인 곳에서는 2배의 속도로 수리할 수 있기 때문이다. 100피트에서 게임을 시작하여, 2피트 움직일 때마다 1 power unit를 요한다.

#5: STATUS / DAMAG REPORT——당신 잠수함의 전황을 가르쳐 준다. 당신의 병기고에 남아 있는 무기의 수를 세어, 어디에 얼마만큼의 피해를 입었는지를 보여 준다.

#6 : 사령 본부——사령 본부에서 잠수부를 보내어, 무기나 군대를 보충한다. 당신은 50피트, 또는 그 이하의 심도에서 2스페이스, 또는 그 이하까지 접근해야 한다. 이것은 2회밖에 사용할 수 없다.

#7 : SABOTAGE(SCUBA)—— 사보타지 사명을 띤 군대를 적함에 파견한다. 단, 3스페이스 이내까지 접근할 것과, 잠수함에는 10사람 남겨 두지 않으면 안 된다는 것을 잊지 않도록.

#8 : POWER CONVERSION—— 미사일 연료를 조함(操艦) power unit에, 또는 그 반대의 변환을 행한다.

#9 : SURRENDER —— 겁장이와 모반인(謀反人)에 대처하기 위한 것이다.

● 게임은 다음의 준비가 된 다음 시작한다. power 6000 유니트, 로케트용 연료 2500파운드, 수뢰 10개, 미사일 3발, 사령부 1 그리고 함정 등…….

● 설명에는 재미있는 부분은 생략했다. 당신이 직접 게임을 몇 번 해 본 다음에는 진짜 재미를 알 테니까.

● 당신은 게임을 섬의 초호(礁湖——산호초에 있어서, 섬과의 사이에 얕은 바닷물이 괸 곳)에서 시작, 어떻게든지 적을 발견하여 격침하는 것이다.

```
RUN
                                   SEABAT
              CREATIVE COMPUTING  MORRISTOWN, NEW JERSEY


WHAT IS YOUR NAME? CAPTAIN AHAB   당신의 이름은?

YOU MUST DESTROY 18 ENEMY SHIPS TO WIN CAPTAIN AHAB.
          당신이 이기려면 적선 18 척을 격침해야 합니다.

WHAT ARE YOUR ORDERS CAPTAIN AHAB? 1   어느 명령으로 합니까?
OPTION #? 0

.  .  .  .  .  . \S/ .  .  .  .  .  .  .  .  .  .  .  .  .
.                                                         .
.     $      \S/                                          .
.                   \S/\S/          \S/      \S/          .
.                            -#- . \S/                    .
.                                              $          .
.    \S/      \S/**********                               .
.          $    . *************-#-                      \S/
.     $         **********   ******                       .
.               ******   (X)   ***               $        .
.               ******       ******                       .
.                  ******   ***                           .
.       \S/           ***                        $        .
.                                          .              .
.  $                  \S/                                 .
.                                                         .
.                                                         .
.                                   . $          \S/      .
.                                     $          \S/-#- . .
.  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . \S/ .

WHAT ARE YOUR ORDERS CAPTAIN AHAB? 3
COURSE (1-8)? 1   진로는?
FUEL (LBS.)? 450   연료는?
YOU DESTROYED 2 ENEMY SHIPS CAPTAIN AHAB!!!  2 척을 부수었읍니다.
DEPTH CHARGES OFF STARBOARD SIDE CAPTAIN AHAB!!!
LIGHT, SUPERFICIAL DAMAGE CAPTAIN AHAB.


---*** RESULT OF LAST ENEMY MANUEVER ***---


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 1
OPTION #? 0

.  .  . \S/\S/\S/ .  . \S/ .  .  .  .  .  . \S/ . \S/\S/\S/\S/
.                                                          .
.     .                                                    .
.                            -#-                           .
.            .                                             .
.           \S/                                    $       .
.                **********   -#-                          .
.          $ \S/   *************                           .
.     $        **********   ******                         .
.              ******   (X)   ***               $          .
.              ******       ******                         .
.                 ******   ***      \S/                    .
.                    ' ***                      $          .
.                                   !H!                    .
.  $                                                       .
.                                  .                       .
.                                                  \S/     .
.                               $  .          \S/-#--#-    .
.                                  $                       .
.  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . .

WHAT ARE YOUR ORDERS CAPTAIN AHAB? 0
COURSE (1-8)? 5 ― 연료
POWER AVAILABLE= 5550 . POWER TO USE? 200   얼마나 쓰겠읍니까?
NAVIGATION COMPLETE. POWER LEFT= 5350 .   나머지 연료는 5350.
DEPTH CHARGES OFF PORT SIDE CAPTAIN AHAB!!!
LIGHT, SUPERFICIAL DAMAGE CAPTAIN AHAB.


---*** RESULT OF LAST ENEMY MANUEVER ***---
*** SHIP DESTROYED BY A MINE CAPTAIN AHAB!!!
*** SHIP EATEN BY A SEA MONSTER CAPTAIN AHAB!!

WHAT ARE YOUR ORDERS CAPTAIN AHAB? 5
# OF ENEMY SHIPS LEFT....... 14      적선의 나머지 수
# OF POWER UNITS LEFT....... 5300    엔진의 나머지 수
# OF TORPEDOS LEFT.......... 10      어뢰의 나머지 수
# OF MISSILES LEFT.......... 2       미사일의 나머지 수
# OF CREWMEN LEFT........... 30      승무원의 나머지 수
LBS. OF FUEL LEFT........... 2050    남은 연료
```

```
WANT DAMAGE REPORT? YES   손해 보고를 보겠읍니까?
   ITEM          DAMAGE  (+ GOOD, 0 NUETRAL, - BAD)
   ----          ------
ENGINES        -.888657
SONAR           1.58997
TORPEDOS        4.77987
MISSILES        1.87385
MANUEVERING     3.22063
STATUS          4.54389
HEADQUARTERS    2.90217
SABOTAGE        3.82123
CONVERTER       0
YOU ARE AT LOCATION ( 12 , 10 ).  당신의 현재 위치는 (12, 10)


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 1
OPTION #? 0

.  .  . \S/ . \S/ .  .  .  .  .  .  .  . \S/ .  .  .  . \S/
.                                                         .
.     $    \S/                         .                  .
.                                                         .
.                              \S/                 .      .
.                  \S/         -#-                    $   .
.                  \S/   **********                       .
.                $       *************                    .
.     $               **********   ******                 .
.                     ******        ***          $        .
.                     ******      ******                  .
.                        ******(X)***   \S/               .
.                           ***                  $        .
.                                         !H!             .
.  $                                                  \S/ .
.                                        \S/      \S/     .
.                                                     \S/ .
.                                     $  $                .
.                                        $       . -#-    .
.  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .

WHAT ARE YOUR ORDERS CAPTAIN AHAB? 0
ENGINES ARE UNDER REPAIR CAPTAIN AHAB.  엔진 고장입니다.


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 7
NO SHIPS IN RANGE CAPTAIN AHAB.  이 영역에 적은 없었읍니다.


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 4
NEW DEPTH? 50   깊이는?
MANUEVER COMPLETE. POWER LOSS= 25
DEPTH CHARGES OFF PORT SIDE CAPTAIN AHAB!!!
LIGHT, SUPERFICIAL DAMAGE CAPTAIN AHAB.


---*** RESULT OF LAST ENEMY MANUEVER ***---
*** SHIP DESTROYED BY A MINE CAPTAIN AHAB!!!


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 1
OPTION #? 0

.  .  . \S/ . \S/ .  .  .  .  .  .  . \S/ .  .  . \S/\S/\S/
.                                    -#-                  .
.     $                                                   .
.            \S/                                          .
.            \S/                  . -#-                   .
.      \S/                                         $      .
.                  **********                             .
.           $      *************                          .
.     $         **********   ******      \S/              .
.               ******         ***           $            .
.               ******      ******                        .
.                  ******(X)***                           .
.                     ***                    $            .
.                                         !H!             .
.  .                                              \S/     .
.                                                         .
.                                                         .
.                                    $  $      -#--#-     .
.                                       .                 .
.  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .

WHAT ARE YOUR ORDERS CAPTAIN AHAB? 5
# OF ENEMY SHIPS LEFT....... 13
# OF POWER UNITS LEFT....... 5125
# OF TORPEDOS LEFT.......... 10
# OF MISSILES LEFT.......... 2
# OF CREWMEN LEFT........... 30
LBS. OF FUEL LEFT........... 2050
```

LATER IN THE RUN

```
---*** RESULT OF LAST ENEMY MANUEVER ***---


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 0
COURSE (1-8)? 2
POWER AVAILABLE= 2021 . POWER TO USE? 500
NAVIGATION COMPLETE. POWER LEFT= 1521 .
NO SHIPS IN RANGE TO DEPTH CHARGE YOU CAPTAIN AHAB!!


---*** RESULT OF LAST ENEMY MANUEVER ***---


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 1
OPTION #? 0

 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . \S/\S/\S/
 .                          (X)                           . 
 .     $                                                  . 
 .                                                        . 
 .                                                        . 
 .                                              $         . 
 .                   *********                            . 
 .                   ************                         . 
 .     $          *********   ******                      . 
 .                ******         ***           $          . 
 .                ******      ******                      . 
 .                   ******   ***           .             . 
 .             -#-      ***   -#- .  .         $          . 
 .                                                        . 
 .  $                                                     . 
 .                                                        . 
 .                                                        . 
 .                                .  $                    . 
 .                                   $                    . 
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 0
COURSE (1-8)? 1
POWER AVAILABLE= 1471 . POWER TO USE? 100
NAVIGATION COMPLETE. POWER LEFT= 1371 .
NO SHIPS IN RANGE TO DEPTH CHARGE YOU CAPTAIN AHAB!!


---*** RESULT OF LAST ENEMY MANUEVER ***---


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 1
OPTION #? 0

 .  .  .  .  .  .  .  .  . (X) .  .  .  . \S/ .  . \S/\S/ . 
 .                                                        . 
 .     .                                                  . 
 .                                                        . 
 .                                                        . 
 .                                              $         . 
 .                   *********                            . 
 .                   ************                         . 
 .                *********   ******                      . 
 .                ******         ***           $          . 
 .                ******      ******                      . 
 .                   ******   ***                         . 
 .          -#-         ***-#--#--#-           $          . 
 .                                                        . 
 .  $                                                     . 
 .                                                        . 
 .                                                        . 
 .                                 $  $                   . 
 .                                    $                   . 
 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  . 


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 3
COURSE (1-8)? 3
FUEL (LBS.)? 675
YOU DESTROYED 3 ENEMY SHIPS CAPTAIN AHAB!!!
NO SHIPS IN RANGE TO DEPTH CHARGE YOU CAPTAIN AHAB!!


---*** RESULT OF LAST ENEMY MANUEVER ***---


WHAT ARE YOUR ORDERS CAPTAIN AHAB? 2
COURSE (1-8)? 3
..!....!....!....!..OUCH!!!  YOU GOT ONE CAPTAIN AHAB!! 아. 성공!
GOOD WORK CAPTAIN AHAB!!!  YOU GOT THEM ALL!!!    모두 격파했읍니다.
PROMOTION AND COMMENDATIONS WILL BE GIVEN IMMEDIATELY!!!
WANT ANOTHER GAME? NO 다시 한 번 하겠읍니까?
Break in 6250
Ok
```



```
10 PRINT TAB( 33);"SEABAT"
20 PRINT TAB( 15);"CREATIVE COMPUTING  MORRISTOWN, NEW JERSEY"
30 PRINT:PRINT:PRINT
35 DD$="####"
40 REM
50 REM  PROGRAM BY VINCENT ERIKSON
60 REM   ORIGINALLY IN H.P. BASIC
70 REM   CONVERTED TO MICROSOFT BASIC BY S.N.
80 REM
90 REM  NOTE THE FOLLOWING ABOUT CONVERSIONS:
100 REM  1)  RESTORE <LINE NUMBER> MEANS TO SET THE DATA
110 REM      POINTER TO THE SPECIFIED LINE.  THIS IS ONLY
120 REM      PRESENT IN TRS-80 LEVEL II AND CP/M BASIC.
130 REM      FOR OTHERS, IMPROVISE BY USING A RESTORE, AND
140 REM      FOR...NEXT WITH READ STATEMENTS TO SKIP OVER
150 REM      THE DATA THAT SHOULD BE IGNORED.
160 REM
170 REM  2)  LOGICAL EXPRESSIONS ARE USED OFTEN.  A TRUE
180 REM      EXPRESSION EVALUATES AS A (-1) AND A FALSE EXPRESSION
190 REM      EVALUATES AS A (0).  THUS IF THE PROGRAM SAYS:
200 REM          X = (D<50)
210 REM      IT MEANS, LET X=0 IF D>=50, AND LET X=-1 IF D<50.
220 REM      AGAIN, IMPROVISE IF YOUR BASIC DOESN'T HAVE THIS
230 REM      (BUT ALL MICROSOFT BASICS DO.)
240 REM
245 REM   THE REAL NAME OF THIS PROGRAM IS, "UNDERWATER PIE LOB"
250 REM *** PROGRAM FOLLOWS ***
260 REM ***
270 DIM A(20,20),D(9)
280 PRINT "WHAT IS YOUR NAME";
290 INPUT N$
300 PRINT
310 REM *** SET UP AREA ***
320 FOR I=1 TO 20
322 FOR J=1 TO 20
324 A(I,J)=0
326 NEXT J
328 NEXT I
330 REM *** ISLAND ***
340 RESTORE 6300
350 FOR X=7 TO 13
360 FOR Y=7 TO 12
370 READ A(X,Y)
380 NEXT Y
390 NEXT X
400 REM *** SUB ***
410 S1=10: S2=10
420 A(S1,S2)=2
430 REM *** ENEMY SHIPS ***
440 S=INT(RND(1)*16)+15
450 RESTORE 6090
460 FOR X=1 TO (INT(RND(1)*4)+1)*2-1
470 READ D8,D9
480 NEXT X
490 FOR X=1 TO S
500 X1=INT(RND(1)*20)+1
510 X2=INT(RND(1)*20)+1
520 IF A(X1,X2)<>0 THEN 500
530 A(X1,X2)=3
540 NEXT X
550 PRINT "YOU MUST DESTROY";S;"ENEMY SHIPS TO WIN, ";N$;"."
560 REM *** HEADQUARTERS ***
570 S3=INT(RND(1)*20)+1
580 S4=INT(RND(1)*20)+1
590 IF A(S3,S4)<>0 THEN 570
600 A(S3,S4)=4
610 REM *** UNDERWATER MINES ***
620 FOR X=1 TO INT(RND(1)*8)+8
630 X1=INT(RND(1)*20)+1
640 X2=INT(RND(1)*20)+1
650 IF A(X1,X2)<>0 THEN 630
660 A(X1,X2)=5
670 NEXT X
680 REM *** SEA MONSTERS ***
690 FOR X=1 TO 4
700 X1=INT(RND(1)*18)+2
710 X2=INT(RND(1)*18)+2
720 IF A(X1,X2)<>0 THEN 700
730 A(X1,X2)=6
740 RESTORE 6090
750 FOR Y=1 TO INT(RND(1)*8)+1
760 READ M1,M2
770 NEXT Y
780 NEXT X
790 REM *** SET STARTING VALUES ***
800 FOR I=1 TO 9
802 D(I)=0
804 NEXT I
810 C=30
820 P=6000
830 F=2500
840 T=10
850 M=3
```

```
860 D=100
870 D2=2
880 REM *** COMMAND SECTION ***
890 PRINT: PRINT "WHAT ARE YOUR ORDERS, ";N$;
900 INPUT O
910 ON INT(O+1) GOTO 1040,1680,2220,2680,3250,3410,3700,3880,4400,4660
915 PRINT
920 PRINT "THE COMMANDS ARE:"
930 PRINT "     #0: NAVIGATION"
940 PRINT "     #1: SONAR"
950 PRINT "     #2: TORPEDO CONTROL"
960 PRINT "     #3: POLARIS MISSILE CONTROL"
970 PRINT "     #4: MANEUVERING"
980 PRINT "     #5: STATUS/DAMAGE REPORT"
990 PRINT "     #6: HEADQUARTERS"
1000 PRINT "     #7: SABOTAGE"
1010 PRINT "     #8: POWER CONVERSION"
1020 PRINT "     #9: SURRENDER"
1030 GOTO 880
1040 REM *** #0: NAVIGATION ***
1050 IF D(1) >= 0 THEN 1080
1060 PRINT "ENGINES ARE UNDER REPAIR, ";N$;"."
1070 GOTO 880
1080 IF C>8 THEN 1110
1090 PRINT "NOT ENOUGH CREW TO MAN THE ENGINES, ";N$;"."
1100 GOTO 880
1110 D1=1-((.23+RND(1)/10)*(-(D <= 50)))
1120 GOSUB 6000
1130 PRINT "POWER AVAILABLE=";P;CHR$(8);".  POWER TO USE";
1140 INPUT P1
1150 IF P1<0 OR P1>P THEN 1130
1160 IF P1 <= 1000 THEN 1210
1170 IF RND(1)<.43 THEN 1210
1180 PRINT "ATOMIC PILE GOES SUPERCRITICAL, ";N$;"!!! HEADQUARTERS"
1190 PRINT "WILL WARN ALL SUBS TO STAY FROM RADIOACTIVE AREA!!!"
1200 GOTO 6180
1210 X=S1
1220 Y=S2
1230 Q1=1
1240 FOR X2=1 TO INT(INT(P1/100+.5)*D1+.5)
1250 IF X+X1>0 AND X+X1<21 AND Y+Y1>0 AND Y+Y1<21 THEN 1280
1260 PRINT "YOU CAN'T LEAVE THE AREA, ";N$;"!!"
1270 GOTO 1340
1280 ON A(X+X1,Y+Y1)+1 GOTO 1290,1330,1630,1390,1440,1470,1490
1290 X=X+X1
1300 Y=Y+Y1
1310 P=P-100
1320 GOTO 1520
1330 PRINT "YOU ALMOST RAN AGROUND, ";N$;"!!"
1340 A(X,Y)=2
1350 A(S1,S2)=0
1360 S1=X
1370 S2=Y
1380 GOTO 4690
1390 IF D>50 THEN 1290
1400 PRINT "YOU RAMMED A SHIP!!! YOU'RE BOTH SUNK, ";N$;"!!"
1410 S=S-1
1420 IF S=0 THEN 6260
1430 GOTO 6180
1440 IF D>50 THEN 1290
1450 PRINT "YOU RAMMED YOUR HEADQUARTERS!! YOU'RE SUNK!!"
1460 GOTO 6180
1470 PRINT "YOU'VE BEEN BLOWN UP BY A MINE, ";N$;"!!"
1480 GOTO 6180
1490 IF RND(1)<.21 THEN 1630
1500 PRINT "YOU WERE EATEN BY A SEA MONSTER, ";N$;"!!"
1510 GOTO 6180
1520 REM *** CHECK FOR NEARBY SEA MONSTERS ***
1530 FOR X3=X-2 TO X+2
1540 FOR Y3=Y-2 TO Y+2
1550 IF X3<1 OR X3>20 OR Y3<1 OR Y3>20 THEN 1610
1560 IF A(X,Y)<>6 THEN 1610
1570 IF RND(1)<.25 THEN 1500
1580 IF Q1=0 THEN 1610
1590 PRINT "YOU JUST HAD A NARROW ESCAPE WITH A SEA MONSTER, ";N$;"!!"
1600 Q1=0
1610 NEXT Y3
1620 NEXT X3
1630 NEXT X2
1640 PRINT "NAVIGATION COMPLETE.  POWER LEFT=";P;CHR$(8);"."
1650 IF P>0 THEN 1340
1660 PRINT "ATOMIC PILE HAS GONE DEAD!!! SUB SINKS, CREW SUFFOCATES!"
1670 GOTO 6180
1680 REM *** #1: SONAR ***
1690 IF D(2) >= 0 THEN 1720
1700 PRINT "SONAR IS UNDER REPAIR, ";N$;"."
1710 GOTO 880
1720 IF C>5 THEN 1750
1730 PRINT "NOT ENOUGH CREW TO WORK SONAR, ";N$;"."
1740 GOTO 880
1750 PRINT "OPTION #";
1760 INPUT O
1770 ON INT(O+1) GOTO 1790,2010
1780 GOTO 1750
1790 REM *** PRINT OUT MAP ***
1800 PRINT
1810 FOR X=1 TO 20
1820 FOR Y=1 TO 20
1830 DATA "   ","***","(X)","\S/","!H!"," $ ","-#-"
1840 IF A(X,Y)<>0 THEN 1880
1850 IF X<>1 AND X<>20 AND Y<>1 AND Y<>20 THEN 1880
1860 PRINT " . ";
1870 GOTO 1950
1880 RESTORE 1830
1890 FOR X1=1 TO A(X,Y)+1
1900 READ A$
1910 NEXT X1
1920 IF D<50 AND RND(1)<.23 AND A(X,Y)<>1 AND A(X,Y)<>2 THEN 1860
1930 IF RND(1)<.15 AND A(X,Y)>2 THEN 1860
1940 PRINT A$;
1950 NEXT Y
1960 PRINT
1970 NEXT X
1980 P=P-50
1990 IF P>0 THEN 880
2000 GOTO 1660
2010 REM *** DIRECTIONAL INFORMATION ***
2020 FOR I=1 TO 5
2022 B(I)=0
2024 NEXT I
2030 PRINT "DIRECTION   # OF SHIPS     DISTANCES"
2031 PRINT "---------   ----------     ---------"
2040 RESTORE 6090
2050 FOR X=1 TO 8
2060 READ X1,Y1
2070 X3=0
2080 FOR X4=1 TO 20
2090 IF S1+X1*X4<1 OR S1+X1*X4>20 OR S2+Y1*X4<1 OR S2+Y1*X4>20 THEN 2140
2100 IF A(S1+X1*X4,S2+Y1*X4)<>3 THEN 2130
2110 X3=X3+1
2120 B(X3)=X4
2130 NEXT X4
2140 IF X3=0 THEN 2200
2150 PRINT "   ";X,X3,
2160 FOR X4=1 TO X3
2170 PRINT B(X4);
2180 NEXT X4
2190 PRINT
2200 NEXT X
2210 GOTO 1980
2220 REM *** #2: TORPEDO CONTROL ***
2230 IF D(3) >= 0 THEN 2260
2240 PRINT "TORPEDO TUBES ARE UNDER REPAIR, ";N$;"."
2250 GOTO 880
2260 IF C >= 10 THEN 2290
2270 PRINT "NOT ENOUGH CREW TO FIRE TORPEDO, ";N$;"."
2280 GOTO 880
2290 IF T THEN 2320
2300 PRINT "NO TORPEDOS LEFT, ";N$;"."
2310 GOTO 880
2320 IF D<2000 THEN 2360
2330 IF RND(1)>.5 THEN 2360
2340 PRINT "PRESSURE IMPLODES SUB UPON FIRING... YOU'RE CRUSHED!!"
2350 GOTO 6180
2360 GOSUB 6000
2370 X=S1
2380 Y=S2
2390 FOR X2=1 TO INT(7+5*(-(D>50))-RND(1)*4+.5)
2400 IF X+X1>0 AND X+X1<21 AND Y+Y1>0 AND Y+Y1<21 THEN 2460
2410 PRINT "TORPEDO OUT OF SONAR RANGE.... INEFFECTUAL, ";N$;"."
2420 T=T-1
2430 P=P-150
2440 IF P>0 THEN 4690
2450 GOTO 1660
2460 ON A(X+X1,Y+Y1)+1 GOTO 2470,2510,2650,2540,2580,2610,2630
2470 X=X+X1
2480 Y=Y+Y1
2490 PRINT "..!..";
2500 GOTO 2650
2510 PRINT "YOU TOOK OUT SOME ISLAND, ";N$;"!"
2520 A(X+X1,Y+Y1)=0
2530 GOTO 2420
2540 PRINT "OUCH!!!  YOU GOT ONE, ";N$;"!!"
2550 S=S-1
2560 IF S<>0 THEN 2520
2570 GOTO 6260
2580 PRINT "YOU BLEW UP YOUR HEADQUARTERS, ";N$;"!!!"
2590 S3=0: S4=0: D2=0
2600 GOTO 2520
2610 PRINT "BLAM!! SHOT WASTED ON A MINE, ";N$;"!!"
2620 GOTO 2520
2630 PRINT "A SEA MONSTER HAD A TORPEDO FOR LUNCH, ";N$;"!!"
2640 GOTO 2420
2650 NEXT X2
2660 PRINT "DUD."
2670 GOTO 2420
2680 REM *** #3: POLARIS MISSILE CONTROL ***
```

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2690 IF D(4) >= 0 THEN 2720
2700 PRINT "MISSILE SILOS ARE UNDER REPAIR, ";N$;"."
2710 GOTO 880
2720 IF C>23 THEN 2750
2730 PRINT "NOT ENOUGH CREW TO LAUNCH A MISSILE, ";N$;"."
2740 GOTO 880
2750 IF M<>0 THEN 2780
2760 PRINT "NO MISSILES LEFT, ";N$;"."
2770 GOTO 880
2780 IF D>50 AND D<2000 THEN 2850
2790 PRINT "RECOMMEND THAT YOU DO NOT FIRE AT THIS DEPTH...PROCEED";
2800 INPUT A$
2810 IF LEFT$(A$,1)="N" THEN 880
2820 IF RND(1)<.5 THEN 2850
2830 PRINT "MISSILE EXPLODES UPON FIRING, ";N$;"!! YOU'RE DEAD!!"
2840 GOTO 6180
2850 GOSUB 6080
2860 PRINT "FUEL (LBS.)";
2870 INPUT F1
2880 IF F1>0 AND F1 <= F THEN 2910
2890 PRINT "YOU HAVE";F;"LBS. LEFT, ";N$;"."
2900 GOTO 2860
2910 F2=INT(F1/75+.5)
2920 IF S1+X1*F2>0 AND S1+X1*F2<21 AND S2+Y1*F2>0 AND S2+Y1*F2<21 THEN 2980
2930 PRINT "MISSILE OUT OF SONAR TRACKING, ";N$;". MISSILE LOST."
2940 M=M-1
2950 F=F-F1
2960 P=P-300
2970 GOTO 2440
2980 D3=0: D4=0: D5=0: D6=0
2990 FOR X=S1+X1*F2-1 TO S1+X1*F2+1
3000 FOR Y=S2+Y1*F2-1 TO S2+Y1*F2+1
3010 IF X<1 OR X>20 OR Y<1 OR Y>20 THEN 3140
3020 D3=D3-(A(X,Y)=3)
3030 D4=D4-(A(X,Y)=6)
3040 D5=D5-(A(X,Y)=5)
3050 D6=D6-(A(X,Y)=1)
3060 IF A(X,Y)<>4 THEN 3100
3070 PRINT "YOU'VE DESTROYED YOUR HEADQUARTERS, ";N$;"!!!"
3080 D3=0: S4=0: D2=0
3090 GOTO 3130
3100 IF A(X,Y)<>2 THEN 3130
3110 PRINT "YOU JUST DESTROYED YOURSELF, ";N$;"!!!  DUMMY!!"
3120 GOTO 6180
3130 A(X,Y)=0
3140 NEXT Y
3150 NEXT X
3160 IF D6=0 THEN 3180
3170 PRINT "YOU BLEW OUT SOME ISLAND, ";N$;"."
3180 IF D5=0 THEN 3200
3190 PRINT "YOU DESTROYED";D5;"MINES, ";N$;"."
3200 IF D4=0 THEN 3220
3210 PRINT "YOU GOT";D4;"SEA MONSTERS, ";N$;"!!!  GOOD WORK!!"
3220 PRINT "YOU DESTROYED";D3;"ENEMY SHIPS, ";N$;"!!!"
3230 S=S-D3
3240 GOTO 2940
3250 REM *** MANUEVERING ***
3260 IF D(5) >= 0 THEN 3290
3270 PRINT "BALLAST CONTROLS ARE BEING REPAIRED, ";N$;"."
3280 GOTO 880
3290 IF C>12 THEN 3320
3300 PRINT "THERE ARE NOT ENOUGH CREW TO WORK THE CONTROLS, ";N$;"."
3310 GOTO 880
3320 PRINT "NEW DEPTH";
3330 INPUT D1
3340 IF D1 >= 0 AND D1<3000 THEN 3370
3350 PRINT "HULL CRUSHED BY PRESSURE, ";N$;"!!"
3360 GOTO 6180
3370 P=P-INT(ABS((D-D1)/2+.5))
3380 PRINT "MANUEVER COMPLETE. POWER LOSS=";INT(ABS((D-D1)/2+.5))
3390 D=D1
3400 GOTO 4690
3410 REM *** #5: STATUS / DAMAGE REPORT ***
3420 IF D(6) >= 0 THEN 3450
3430 PRINT "NO REPORTS ARE ABLE TO GET THROUGH, ";N$;"."
3440 GOTO 880
3450 IF C>3 THEN 3480
3460 PRINT "NO ONE LEFT TO GIVE THE REPORT, ";N$;"."
3470 GOTO 880
3480 PRINT:PRINT:PRINT "# OF ENEMY SHIPS LEFT.......   ";:PRINT USING DD$;S
3490 PRINT "# OF POWER UNITS LEFT.......";:PRINT USING "###,###";P
3500 PRINT "# OF TORPEDOS LEFT..........   ";:PRINT USING DD$;T
3510 PRINT "# OF MISSILES LEFT..........   ";:PRINT USING DD$;M
3520 PRINT "# OF CREWMEN LEFT...........   ";:PRINT USING DD$;C
3530 PRINT "LBS. OF FUEL LEFT...........";:PRINT USING "###,###";F
3540 PRINT
3550 PRINT "WANT DAMAGE REPORT";
3560 INPUT A$
3570 IF LEFT$(A$,1)="N" THEN 3670
3575 PRINT:PRINT
3580 PRINT "   ITEM          DAMAGE  (+ GOOD, 0 NEUTRAL, - BAD)"
3590 PRINT "   ----          ------"
3600 DATA "ENGINES","SONAR","TORPEDOS","MISSILES","MANEUVERING"
3610 DATA "STATUS","HEADQUARTERS","SABOTAGE","CONVERTER"
3620 RESTORE 3600
3630 FOR X=1 TO 9
3640 READ A$
3650 PRINT A$,:PRINT USING "###.####";D(X)
3660 NEXT X
3665 PRINT
3670 PRINT "YOU ARE AT LOCATION (";S1;",";S2;")."
3680 PRINT
3690 GOTO 880
3700 REM *** #6: HEADQUARTERS ***
3710 IF D(7) >=0 THEN 3740
3720 PRINT "HEADQUARTERS IS DAMAGED.  UNABLE TO HELP, ";N$;"."
3730 GOTO 880
3740 IF D2<>0 THEN 3770
3750 PRINT "HEADQUARTERS IS DESERTED, ";N$;"."
3760 GOTO 880
3770 IF SQR((S1-S3)^2+(S2-S4)^2) <= 2 AND D<51 THEN 3800
3780 PRINT "UNABLE TO COMPLY WITH DOCKING ORDERS, ";N$;"."
3790 GOTO 880
3800 PRINT "DIVERS FROM HEADQUARTERS BRING OUT SUPPLIES AND MEN."
3810 P=4000
3820 T=8
3830 M=2
3840 F=1500
3850 C=25
3860 D2=D2-1
3870 GOTO 4690
3880 REM *** #7: SABOTAGE ***
3890 IF D(8)>=0 THEN 3920
3900 PRINT "HATCHES INACCESSIBLE, ";N$;".  NO SABOTAGES POSSIBLE."
3910 GOTO 880
3920 IF C>10 THEN 3950
3930 PRINT "NOT ENOUGH CREW TO GO ON A MISSION, ";N$;"."
3940 GOTO 880
3950 D3=0: D4=0
3960 FOR X=S1-2 TO S1+2
3970 FOR Y=S2-2 TO S2+2
3980 IF X<1 OR X>20 OR Y<1 OR Y>20 THEN 4010
3990 D3=D3-(A(X,Y)=3)
4000 D4=D4-(A(X,Y)=6)
4010 NEXT Y
4020 NEXT X
4030 IF D3<>0 THEN 4060
4040 PRINT "NO SHIPS IN RANGE, ";N$;"."
4050 GOTO 880
4060 PRINT "THERE ARE";D3;"SHIPS IN RANGE, ";N$;"."
4070 PRINT "HOW MANY MEN ARE GOING, ";N$;
4080 INPUT Q1
4090 IF C-Q1 >= 10 THEN 4120
4100 PRINT "YOU MUST LEAVE AT LEAST 10 MEN ON BOARD, ";N$;"."
4110 GOTO 4070
4120 D5=INT(D3/Q1+.5)
4130 D6=0
4140 FOR X=S1-2 TO S1+2
4150 FOR Y=S2-2 TO S2+2
4160 IF D3/Q1>1-RND(1) AND RND(1)+D3/Q1<.9 THEN 4220
4170 IF A(X,Y)<>3 THEN 4220
4180 D6=D6+1
4190 A(X,Y)=0
4200 S=S-1
4210 IF S=0 THEN 6260
4220 NEXT Y
4230 NEXT X
4240 PRINT D6;"SHIPS WERE DESTROYED, ";N$;"."
4250 D6=0: D7=0
4260 FOR X=1 TO Q1
4270 D7=D7-(RND(1)>.6)
4280 NEXT X
4290 FOR X=1 TO Q1-D7
4300 D6=D6-(RND(1)<.15)
4310 NEXT X
4320 IF D4=0 THEN 4360
4330 PRINT "A SEA MONSTER SMELLS THE MEN ON THE WAY BACK!!!"
4340 PRINT D7;"MEN WERE EATEN, ";N$;"!!"
4350 C=C-D7
4360 PRINT D6;"MEN WERE LOST THROUGH ACCIDENTS, ";N$;"."
4370 C=C-D6
4380 P=P-INT(10*Q1+RND(1)*10)
4390 GOTO 4690
4400 REM *** #8: POWER CONVERTER ***
4410 IF D(9) >= 0 THEN 4440
4420 PRINT "POWER CONVERTER IS DAMAGED, ";N$;"."
4430 GOTO 880
4440 IF C>5 THEN 4470
4450 PRINT "NOT ENOUGH MEN TO WORK THE CONVERTER, ";N$;"."
4460 GOTO 880
4470 PRINT "OPTION? (1=FUEL TO POWER, 2=POWER TO FUEL)";
4480 INPUT O
4490 ON O GOTO 4510,4580
4500 GOTO 4470
4510 REM *** FUEL TO POWER CONVERSION ***
```

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4520 PRINT "FUEL AVAILABLE=";F;CHR$(8);". CONVERT";
4530 INPUT C1
4540 IF C1>F OR C1<0 THEN 4520
4550 F=F-C1
4560 P=P+INT(C1/3)
4570 GOTO 4640
4580 REM *** POWER TO FUEL CONVERSION ***
4590 PRINT "POWER AVAILABLE=";P-1;CHR$(8);". CONVERT";
4600 INPUT C1
4610 IF C1>P-1 OR C1<0 THEN 4590
4620 P=P-C1
4630 F=F+INT(C1*3)
4640 PRINT "CONVERSION COMPLETE. POWER=";P;CHR$(8);". FUEL=";F;CHR$(8);"."
4650 GOTO 4690
4660 REM *** #9: SURRENDER ***
4670 PRINT "COWARD!! YOU'RE NOT VERY PATRIOTIC, ";N$;"!!!"
4680 GOTO 6180
4690 REM *** RETALIATION SECTION ***
4700 Q=0
4710 FOR X=S1-4 TO S1+4
4720 FOR Y=S2-4 TO S2+4
4730 IF X<1 OR X>20 OR Y<1 OR Y>20 THEN 4760
4740 IF A(X,Y)<>3 THEN 4760
4750 Q=Q+(RND(1)/SQR((S1-X)^2+(S2-Y)^2))
4760 NEXT Y
4770 NEXT X
4780 IF Q THEN 4810
4790 PRINT "NO SHIPS IN RANGE TO DEPTH CHARGE YOU, ";N$;"!!"
4800 GOTO 5210
4810 PRINT "DEPTH CHARGES OFF ";
4820 IF RND(1)>.5 THEN 4850
4830 PRINT "PORT SIDE, ";N$;"!!!"
4840 GOTO 4860
4850 PRINT "STARBOARD SIDE, ";N$;"!!!"
4860 IF Q>.13 OR RND(1)>.92 THEN 4890
4870 PRINT "NO REAL DAMAGE SUSTAINED, ";N$;"."
4880 GOTO 5210
4890 IF Q>.36 OR RND(1)>.96 THEN 4940
4900 PRINT "LIGHT, SUPERFICIAL DAMAGE, ";N$;"."
4910 P=P-50
4920 D(INT(RND(1)*9)+1)=-RND(1)*2
4930 GOTO 5210
4940 IF Q>.6 OR RND(1)>.975 THEN 5020
4950 PRINT "MODERATE DAMAGE. REPAIRS NEEDED."
4960 P=P-75+INT(RND(1)*30)
4970 FOR Y=1 TO 2
4980 X=INT(RND(1)*9)+1
4990 D(X)=D(X)-RND(1)*8
5000 NEXT Y
5010 GOTO 5210
5020 IF Q>.9 OR RND(1)>.983 THEN 5100
5030 PRINT "HEAVY DAMAGE!! REPAIRS IMMEDIATE, ";N$;"!!!"
5040 P=P-(200+INT(RND(1)*76))
5050 FOR X=1 TO 4+INT(RND(1)*2)
5060 Y=INT(RND(1)*9)+1
5070 D(Y)=D(Y)-RND(1)*11
5080 NEXT X
5090 GOTO 5210
5100 PRINT "DAMAGE CRITICAL!!!!  WE NEED HELP!!!"
5120 X=INT(RND(1)*16)+1
5130 PRINT "SEND 'HELP' IN CODE. HERE IS THE CODE:";MID$(A$,X,4);
5132 REM  TIME DELAY AND THEN ERASE THE CODE
5134 FOR I=1 TO 300: NEXT I
5136 PRINT CHR$(13);TAB( 38);"XXXX";CHR$(13);TAB( 38);"****"
5140 INPUT "ENTER CODE";B$
5150 PRINT
5160 IF B$<>MID$(A$,X,4) THEN 5190
5170 PRINT "FAST WORK, ";N$;"!! HELP ARRIVES IN TIME TO SAVE YOU!!!"
5180 GOTO 5040
5190 PRINT "MESSAGE GARBLED, ";N$;"...NO HELP ARRIVES!!!"
5200 GOTO 6180
5210 REM *** MOVE SHIPS / SEA MONSTERS ***
5220 IF D(1) >= 0 OR D(3) >= 0 OR D(4) >= 0 OR D(5) >= 0 OR D(7) >= 0 THEN 5260
5230 IF D(8) >= 0 OR D(9) >= 0 THEN 5260
5240 PRINT "DAMAGE TOO MUCH, ";N$;"!!!  YOU'RE SUNK!!"
5250 GOTO 6180
5260 REM *** MOVE SHIPS / SEA MONSTERS ***
5270 PRINT: PRINT: PRINT "---*** RESULT OF LAST ENEMY MANUEVER ***---"
5280 FOR X=1 TO 20
5290 FOR Y=1 TO 20
5300 IF A(X,Y)<>3 THEN 5690
5310 REM *** MOVE A SHIP ***
5320 W=D8
5330 V=D9
5340 IF X+W>0 AND X+W<21 AND Y+V>0 AND Y+V<21 THEN 5420
5350 FOR X0=19 TO 1 STEP -1
5360 IF A(X-W*X0,Y-V*X0)<>0 THEN 5400
5370 A(X-W*X0,Y-V*X0)=3
5380 A(X,Y)=0
5390 GOTO 6000
5400 NEXT X0
5410 STOP
5420 ON A(X+W,Y+V)+1 GOTO 5430,5460,5530,5460,5560,5600,5650
5430 A(X+W,Y+V)=3
5440 A(X,Y)=0
5450 GOTO 6000
5460 REM *** CHANGE DIRECTION ***
5470 RESTORE 6090
5480 FOR X0=1 TO INT(RND(1)*8)+1
5490 READ W,V
5500 NEXT X0
5510 IF X+W<1 OR X+W>20 OR Y+V<1 OR Y+V>20 THEN 5470
5520 GOTO 5420
5530 IF D>50 THEN 5460
5540 PRINT "*** YOU'VE BEEN RAMMED BY A SHIP, ";N$;"!!!"
5550 GOTO 6180
5560 IF RND(1)<.15 THEN 5460
5570 PRINT "*** YOUR HEADQUARTERS WAS RAMMED, ";N$;"!!!"
5580 S3=0: S4=0: D2=0: A(X+W,Y+V)=0
5590 GOTO 5620
5600 IF RND(1)<.7 THEN 5460
5610 PRINT "*** SHIP DESTROYED BY A MINE, ";N$;"!!!"
5620 S=S-1
5630 IF S<>0 THEN 5440
5640 GOTO 6260
5650 IF RND(1)<.8 THEN 5460
5660 PRINT "*** SHIP EATEN BY A SEA MONSTER, ";N$;"!!"
5670 S=S-1
5680 GOTO 5630
5690 REM *** MOVE A SEA MONSTER ***
5700 IF A(X,Y)<>6 THEN 6000
5710 IF X+M1<1 OR X+M1>20 OR Y+M2<1 OR Y+M2>20 THEN 5760
5720 ON A(X+M1,Y+M2)+1 GOTO 5730,5760,5830,5850,5900,5730,5930
5730 A(X+M1,Y+M2)=6
5740 A(X,Y)=0
5750 GOTO 6000
5760 REM *** CHANGE DIRECTION ***
5770 RESTORE 6090
5780 FOR X0=1 TO INT(RND(1)*8)+1
5790 READ M1,M2
5800 NEXT X0
5810 IF X+M1<1 OR X+M1>20 OR Y+M2<1 OR Y+M2>20 THEN 5760
5820 GOTO 5720
5830 PRINT "*** YOU'VE BEEN EATEN BY A SEA MONSTER, ";N$;"!!"
5840 GOTO 6180
5850 IF RND(1)>.2 THEN 5760
5860 PRINT "*** SHIP EATEN BY A SEA MONSTER, ";N$;"!!"
5870 S=S-1
5880 IF S<>0 THEN 5730
5890 GOTO 6260
5900 PRINT "*** A SEA MONSTER ATE YOUR HEADQUARTERS, ";N$;"!!"
5910 S3=0: S4=0: D2=0
5920 GOTO 5730
5930 IF RND(1)<.75 THEN 5760
5940 PRINT "*** A SEA MONSTER FIGHT, ";N$;"!!! ";
5950 IF RND(1)<.8 THEN 5980
5960 PRINT "AND ONE DIES!!"
5970 GOTO 5730
5980 PRINT "IT'S A TIE!!"
5990 GOTO 5760
6000 NEXT Y
6010 NEXT X
6020 REM *** MAKE REPAIRS ***
6030 FOR Y=1 TO 9
6040 X=INT(RND(1)*9)+1
6050 D(X)=D(X)+(RND(1)*(2+RND(1)*2))*(1+(-(D<51) OR -(D>2000)))*(-(D(X)<3))
6060 NEXT Y
6070 GOTO 880
6080 REM *** GOSUB FOR COURSE / DIRECTION ***
6090 DATA -1,0,-1,1,0,1,1,1,1,0,1,-1,0,-1,-1,-1
6100 PRINT "COURSE (1-8)";
6110 INPUT C1
6120 IF C1<1 OR C1>8 THEN 6100
6130 RESTORE 6090
6140 FOR X9=1 TO INT(C1+.5)
6150 READ X1,Y1
6160 NEXT X9
6170 RETURN
6180 REM *** DESTROYED ? ***
6190 PRINT "THERE ARE STILL";S;"ENEMY SHIPS LEFT, ";N$;"."
6200 PRINT "YOU WILL BE DEMOTED TO RANK OF DECK SCRUBBER!!!"
6210 PRINT "WANT ANOTHER GAME";
6220 INPUT A$
6230 IF LEFT$(A$,1)<>"Y" THEN 6250
6240 GOTO 310
6250 END
6260 PRINT "GOOD WORK, ";N$;"!!!  YOU GOT THEM ALL!!!"
6270 PRINT "PROMOTION AND COMMENDATIONS WILL BE GIVEN IMMEDIATELY!!!"
6280 GOTO 6210
6290 REM *** ISLAND DATA ***
6300 DATA 0,1,1,1,0,0,0,1,1,1,1,0,1,1,1,0,1,1,1,1,0,0,0,1
6310 DATA 1,1,0,0,1,1,0,1,1,0,1,0,0,0,1,0,0,0
6320 END
```

Seawar (대해전)

당신은 적의 해역에서 작전중인 함대의 사령관. 당신도 적도 각각 9척의 전함을 가지고 있다. 먼저 상대의 전함을 격침한 쪽이 승리한다.

당신은 사령관으로서, 먼저 사격하기 위한 포의 앙각을 결정해야 한다. 그 때 공기 저항은 무시한다. 당신의 조준기로 목표물까지의 사정 거리를 알 수 있으며, 포탄은 초속 675m로 세트되어 있다.

이 게임에서는 탄환의 궤도를 안다. 앙각을 바꾸면 어떻게 되는지도 안다.

1. 탄환의 궤도가 어떤 식으로 되는지 스케치해 보기 바란다(모르겠으면 도서관에서 조사해 보라).
   a. 최대 사정 거리를 얻을 수 있는 앙각은? 사령관으로서, 승리하기 위해서는 꼭 알 필요가 있다.
   b. 만약 0°에서 포를 쏘면 어떻게 될까?
   c. 만약 똑바로 위를 향해 탄환을 발사하면 어떻게 될까?
2. 당신이 승리를 얻었으면, 탄환의 초속을 바꾸어 보면 어떨까? 사정 거리는 어떻게 될까?

본디 이 게임은, 7초 안에 공격하게 되어 있지만, 컴퓨터에 타이머가 붙어 있다면 쉽게 변경할 수 있다.

The origin of SEAWAR is unknown. It was revised and submitted to us by David S. Paxton. It was further revised and the writeup prepared by Mary T. Dobbs, Mathematics and Science Center, Glen Allen, Virginia. It first appeared in *Creative Computing*, May/Jun 1975.

```
RUN

                          SEAWAR
                    CREATIVE COMPUTING
                  MORRISTOWN, NEW JERSEY


YOU COMMAND A FLEET OF SHIPS OPERATING IN
ENEMY TERRITORY!!!
DO YOU NEED ANY ASSISTANCE? YES
YOU TELL YOUR GUN CREWS THE ELEVATION TO SET THEIR GUNS.
ELEVATION IS IN DEGREES FROM 0 TO 360.
YOUR TASK FORCE CONSISTS OF 3 DESTROYERS, 2 CRUISERS,
2 BATTLESHIPS, AND 2 HEAVY AIRCRAFT CARRIERS.
THE ENEMY HAS 9 SHIPS FOR HIS DEFENSE.
IF YOU SUCCEED IN SINKING ALL HIS SHIPS BEFORE HE SINKS
YOURS, YOU HAVE WON. HOWEVER, IF HE SINKS ALL YOUR SHIPS
BEFORE YOU HAVE DEFEATED HIM, YOU HAVE LOST!!
LET US BEGIN!!!

YOUR FLAGSHIP HAS DETECTED A U-BOAT APPROACHING AT 5 PHANTOMS.
YOUR SUBMARINE DETECTION EQUIPMENT READS THE RANGE TO THE TARGET
AS  39481  METERS.
THE U-BOAT HAS COMMENCED FIRING TORPEDOES AT YOUR SHIPS.
HIS FIRST TORPEDO EXPLODED  281  METERS BEHIND YOUR SHIP.
WHAT ELEVATION ** ? 38  각도는?


-----FIRE!!!  발사!                         목표의 5637m 뒤에서 폭발!
DEPTH CHARGE EXPLODED  5637  METERS AFT OF TARGET.
THE ENEMY U-BOAT SANK ONE OF YOUR DESTROYERS!! 적의 U보우트가 당신의
WHAT ELEVATION ** ? 32.4                          구축함을 격침!


-----FIRE!!!
DEPTH CHARGE EXPLODED  2592  METERS AFT OF TARGET.
THE ENEMY U-BOAT SANK YOUR HEAVY CRUISER!!
WHAT ELEVATION ** ? 29.9


-----FIRE!!!
DEPTH CHARGE EXPLODED  707  METERS AFT OF TARGET.
THE ENEMY TORPEDO EXPLODED  103 METERS IN  적의 어뢰가 당신 배의 103m
FRONT OF YOUR SHIP.                         앞에서 폭발되었읍니다.
WHAT ELEVATION ** ? 29.2


-----FIRE!!!
DEPTH CHARGE EXPLODED  123  METERS AFT OF TARGET.
THE ENEMY U-BOAT SANK ANOTHER OF YOUR DESTROYERS!!
WHAT ELEVATION ** ? 29.07
                                              적의 U보우트 격침!

-----FIRE!!!
DEPTH CHARGE EXPLODED RIGHT ON TOP OF THAT BABY!!!
                      목표 파괴!
TARGET DESTROYED!!!    ** 5  **  ROUNDS EXPENDED.
YOU HAVE LOST  3  SHIPS, AND THE ENEMY HAS LOST  1 .
당신은 3척 잃고, 적은 1척 잃었읍니다.

YOUR FLAGSHIP REPORTS THE SIGHTING OF AN ENEMY 210 MM SHORE GUN
YOUR INSTRUMENTS READ THE RANGE TO THE TARGET AS  41020  METERS.
THE ENEMY 210 MM SHORE GUN IS FIRING ON YOUR SHIPS!
HIS FIRST ROUND FELL  113  METERS SHORT.
WHAT ELEVATION ** ? 32


-----FIRE!!!
SHELL OVERSHOT TARGET BY  773  METERS.  773m 지나쳤읍니다.
THE ENEMY 210 MM SHORE GUN SANK ONE OF YOUR BATTLESHIPS!!
WHAT ELEVATION ** ? 31.27


-----FIRE!!!
SHELL OVERSHOT TARGET BY  240  METERS.
THE ENEMY 210 MM SHORE GUN SANK YOUR LAST DESTROYER!!
WHAT ELEVATION ** ? 31./\/\07


-----FIRE!!!
  ** BOOM  **

TARGET DESTROYED!!!    ** 3  **  ROUNDS EXPENDED.
YOU HAVE LOST  5  SHIPS, AND THE ENEMY HAS LOST  2 .
```

```
YOUR FLAGSHIP REPORTS THE SIGHTING OF AN ENEMY 70,000 TON CRUISER
YOUR INSTRUMENTS READ THE RANGE TO THE TARGET AS  41009  METERS.
THE ENEMY 70,000 TON CRUISER IS FIRING ON YOUR SHIPS!
IN FACT, HE JUST SANK YOUR AIRCRAFT CARRIER!!
WHAT ELEVATION ** ? 32


-----FIRE!!!
SHELL OVERSHOT TARGET BY  784  METERS.
THE ENEMY 70,000 TON CRUISER SANK YOUR LIGHT CRUISER!!
WHAT ELEVATION ** ? 31.1                    당신의 순양함 격침!


-----FIRE!!!
SHELL OVERSHOT TARGET BY  123  METERS.
THE ENEMY 70,000 TON CRUISER SANK YOUR LAST AIRCRAFT CARRIER!!
WHAT ELEVATION ** ? 30.9                    당신의 마지막 항공기 격침!


-----FIRE!!!
  ** BOOM  **

TARGET DESTROYED!!!     ** 3  **  ROUNDS EXPENDED.
YOU HAVE LOST  8  SHIPS, AND THE ENEMY HAS LOST  3 .

YOUR FLAGSHIP REPORTS THE SIGHTING OF AN ENEMY BATTLESHIP
YOUR INSTRUMENTS READ THE RANGE TO THE TARGET AS  42864  METERS.
THE ENEMY BATTLESHIP IS FIRING ON YOUR SHIPS!
IN FACT, HE JUST SANK YOUR LAST BATTLESHIP!!
            ********  PEACE  ********

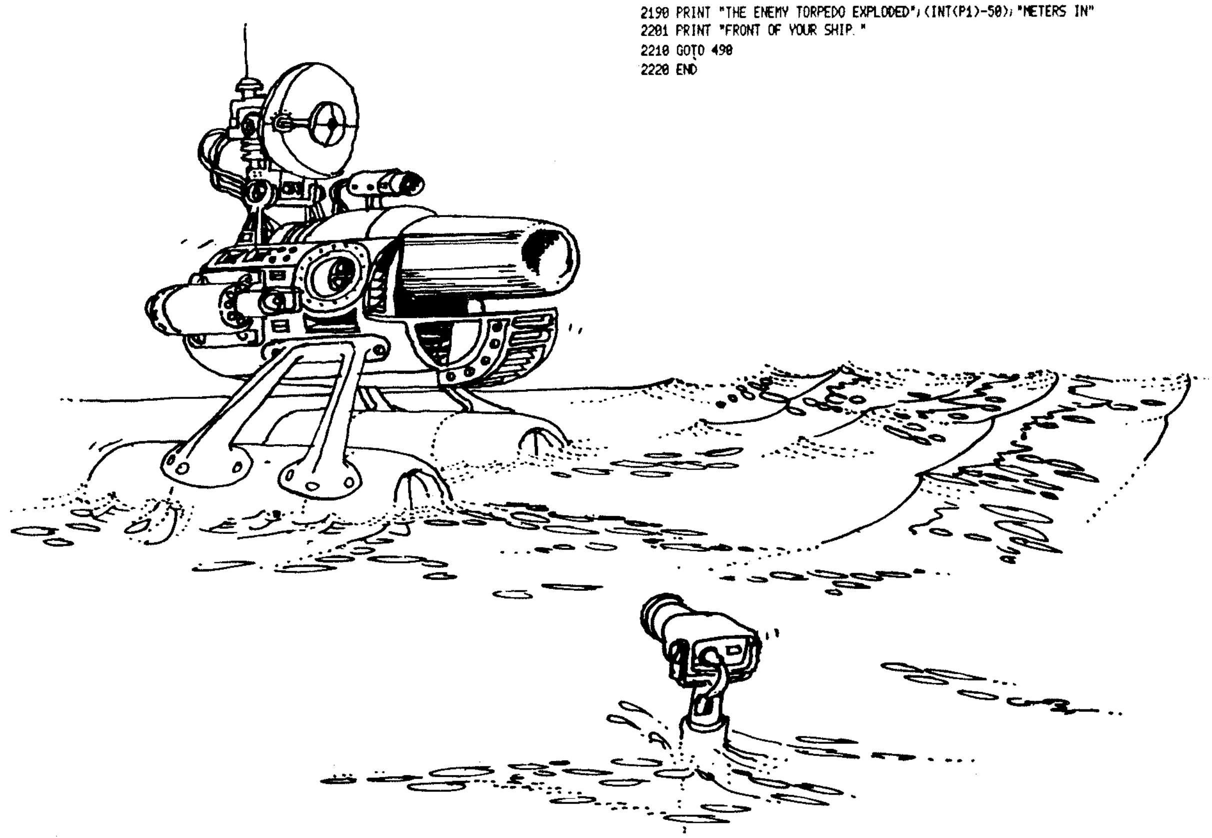


YOU FIRED       11              ROUNDS. THE ENEMY FIRED     10
 ROUNDS.
ALL OF YOUR SHIPS HAVE BEEN SUNK.  SO SORRY  모든 배가 격침 당했읍니다.
THE BATTLE IS OVER..........THE ENEMY WINS!  애석합니다.
OK  해전 게임 끝.                     적의 승리!
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```
4 PRINT CHR$(26)
5 PRINT TAB( 26);"SEAWAR"
6 PRINT TAB( 20);"CREATIVE COMPUTING"
7 PRINT TAB( 18) "MORRISTOWN, NEW JERSEY"
9 PRINT:PRINT
10 PRINT "YOU COMMAND A FLEET OF SHIPS OPERATING IN"
15 PRINT "ENEMY TERRITORY!!!"
16 PRINT
20 PRINT "DO YOU NEED ANY ASSISTANCE";
40 INPUT Q$
50 IF LEFT$(Q$,1)="Y" THEN 90
60 IF LEFT$(Q$,1)="N" THEN 170
70 PRINT "INPUT 'YES' OR 'NO'"
80 GOTO 40
90 PRINT:PRINT "YOU TELL YOUR GUN CREWS THE ELEVATION TO SET THEIR GUNS."
100 PRINT "ELEVATION IS IN DEGREES FROM 0 TO 360."
110 PRINT
119 PRINT "YOUR TASK FORCE CONSISTS OF 3 DESTROYERS, 2 CRUISERS,"
120 PRINT "2 BATTLESHIPS, AND 2 HEAVY AIRCRAFT CARRIERS."
130 PRINT "THE ENEMY HAS 9 SHIPS FOR HIS DEFENSE."
135 PRINT
140 PRINT "IF YOU SUCCEED IN SINKING ALL HIS SHIPS BEFORE HE SINKS"
150 PRINT"YOURS, YOU HAVE WON. HOWEVER, IF HE SINKS ALL YOUR SHIPS"
160 PRINT "BEFORE YOU HAVE DEFEATED HIM, YOU HAVE LOST!!"
165 PRINT
170 PRINT "LET US BEGIN!!!"
210 PRINT ""
220 READ Z$
230 A=A+1
240 GOTO 320
250 RESTORE
260 IF O=9 OR A=9 THEN 840
270 FOR X=1 TO A
280 READ Z$
290 NEXT X
300 READ Z$
310 A=A+1
320 IF Z$="AIRCRAFT CARRIER" THEN 390
330 IF Z$="U-BOAT" THEN 2000
340 IF Z$="TORPEDO BOAT" THEN 360
350 P=1
360 GOTO 405
390 RESTORE
405 PRINT:PRINT "YOUR FLAGSHIP REPORTS THE SIGHTING OF AN ENEMY ";Z$
410 T=43000!-30000*RND(1)+(RND(1)*10)*.987654+102
420 IF T<10000 THEN 410
430 S=0:P2=0
440 T=INT(T)
450 IF Z$="U-BOAT" THEN 2030
460 PRINT "YOUR INSTRUMENTS READ THE RANGE TO THE TARGET AS";T;"METERS."
480 IF P=1 THEN 1400
490 IF S>4 THEN 510
500 GOTO 540
510 PRINT "BAD SHOT, THE TARGET HAS MOVED OUT OF"
520 PRINT "RANGE!!! LET'S TRY IT AGAIN!!!"
525 S1=S1+S
530 GOTO 320
540 PRINT "WHAT ELEVATION ** ";
550 INPUT B
551 PRINT
570 PRINT ""
590 PRINT "-----FIRE!!!"
600 S=S+1
620 IF B>360 THEN 1410
630 IF B<0 THEN 750
640 IF B=0 THEN 770
650 IF B=90 THEN 980
660 IF B>330 THEN 770
670 IF B>180 THEN 1370
680 IF B>150 THEN 1300
690 IF B>90 THEN 1020
700 V1=675.285
705 E=INT(T-(V1^2/9.80665*SIN(2*B/57.3)))
710 IF ABS(E) <= 100 THEN 1050
720 IF E>100 THEN 1200
730 IF E<-100 THEN 1250
750 PRINT "GUN BACKFIRED, KILLING CREW!"
760 GOTO 820
770 PRINT "WHAT ARE YOU TRYING TO DO? KILL SOME FISH? THE SHELL"
780 PRINT "EXPLODED UNDER WATER FIFTY METERS FROM YOUR SHIP!!!"
790 GOTO 1590
820 PRINT "             ADMIRAL PLEASE !!!!"
830 GOTO 1590
840 PRINT "            ********  PEACE  ********"
870 PRINT:PRINT:PRINT
890 PRINT "YOU FIRED",S1,"ROUNDS. THE ENEMY FIRED",S2,"ROUNDS."
900 IF O=9 THEN 920
910 IF A=9 THEN 950
920 PRINT "ALL OF YOUR SHIPS HAVE BEEN SUNK.  SO SORRY."
930 PRINT "THE BATTLE IS OVER..........THE ENEMY WINS!"
940 GOTO 2220
950 PRINT "YOU HAVE DECIMATED THE ENEMY..........THAT'S NICE."
960 PRINT "THE BATTLE IS OVER..........YOU WIN!!!!!"
970 GOTO 2220
980 PRINT "YOU IDIOT!! YOU SHOT STRAIGHT UP, AND THE SHELL"
990 PRINT "LANDED ON YOUR OWN GUN POSITION, DESTROYING IT!!!"
1000 GOTO 1590
1020 PRINT "HEY STUPID, YOU'RE FIRING ON YOUR OWN SHIPS!!!"
1030 GOTO 1590
1050 IF Z$="U-BOAT" THEN 1070
1060 GOTO 1090
1070 PRINT "DEPTH CHARGE EXPLODED RIGHT ON TOP OF THAT BABY!!!"
1080 GOTO 1100
1090 PRINT "  ** BOOM  **"
1100 PRINT ""
1110 M$="TARGET DESTROYED!!!     **"
1120 N$=" **  ROUNDS EXPENDED."
1130 PRINT M$;S;N$
1142 PRINT "YOU HAVE LOST";O;"SHIPS, AND THE ENEMY HAS LOST";A;CHR$(8);"."
1150 S1=S1+S
1160 PI=0
1190 GOTO 250
1200 IF Z$="U-BOAT" THEN 2130
1210 PRINT "SHOT FELL";ABS(E);"METERS SHORT OF TARGET."
1230 GOTO 1590
1250 IF Z$="U-BOAT" THEN 2160
1260 PRINT "SHELL OVERSHOT TARGET BY";ABS(E);"METERS."
1280 GOTO 1590
```

```
1310 PRINT "  YOU SHOT A PROJECTILE INTO THE AIR,"
1320 PRINT "  IT FELL TO THE WATER, YOU KNOW NOT WHERE..."
1330 PRINT "BUT I DO, YOU IDIOT, YOU JUST SANK YOUR OWN FLEET TANKER!!"
1340 S1=S1+1
1350 IF P=1 THEN 1590
1360 GOTO 490
1370 PRINT "WHAT ARE YOU TRYING TO DO?? DRILL A NEW HATCH?? THE SHELL"
1380 PRINT "EXPLODED IN YOUR SHIP, DESTROYING IT!!!"
1385 O=O+1
1386 IF O=9 THEN 840
1390 IF P=1 THEN 1590
1400 GOTO 820
1410 PRINT "WHERE DID U LEARN TO TYPE? ";B;"DEGREES EXCEEDS 360 BY"
1420 PRINT B-360;"DEGREES."
1430 S1=S1+1
1440 IF P=1 THEN 1590
1450 GOTO 490
1480 PRINT "THE ENEMY ";Z$;" IS FIRING ON YOUR SHIPS!"
1490 P4=1234*RND(RND(1))+(RND(1)*10)
1500 IF P4>500 THEN 1490
1510 IF P2=1 THEN 1600
1520 IF INT(P4)<100 THEN 1800
1530 IF Z$="U-BOAT" THEN 2100
1540 PRINT "HIS FIRST ROUND FELL";INT(P4);"METERS SHORT."
1560 S2=S2+1
1570 GOTO 490
1590 IF P2=1 THEN 1490
1600 P1=1250*RND(RND(1))+(RND(1)*10)
1610 IF P1>P4 THEN 1600
1620 IF P1<(P4-400) THEN 1600
1630 IF P1<100 THEN 1710
1640 P4=P1
1650 S2=S2+1
1660 IF Z$="U-BOAT" THEN 2190
1670 PRINT "THE ENEMY ROUND FELL";INT(P1);"METERS SHORT."
1700 GOTO 490
1710 S2=S2+1
1720 P2=1
1730 GOSUB 1850
1750 PRINT "THE ENEMY ";Z$;" SANK ";D$
```

```
1760 O=O+1
1770 IF O=9 THEN 840
1780 IF D$="YOUR LAST BATTLESHIP!!" THEN 840
1790 GOTO 490
1800 R2=1
1810 GOSUB 1850
1820 PRINT "IN FACT, HE JUST SANK ";D$
1830 O=O+1
1840 GOTO 1770
1850 RESTORE
1860 FOR C=1 TO (S+O)
1870 READ D$
1880 NEXT C
1890 READ D$
1920 DATA "U-BOAT","210 MM SHORE GUN","70,000 TON CRUISER"
1930 DATA "BATTLESHIP","TORPEDO BOAT","HEAVY FRIGATE"
1940 DATA "E-TYPE DESTROYER","GUIDED-MISSLE SHIP","AIRCRAFT CARRIER"
1950 DATA "ONE OF YOUR DESTROYERS!!","YOUR HEAVY CRUISER!!"
1960 DATA "ANOTHER OF YOUR DESTROYERS!!","ONE OF YOUR BATTLESHIPS!!"
1970 DATA "YOUR LAST DESTROYER!!","YOUR AIRCRAFT CARRIER!!"
1975 DATA "YOUR LIGHT CRUISER!!","YOUR LAST AIRCRAFT CARRIER!!"
1980 DATA "YOUR LAST BATTLESHIP!!"
1990 RETURN
2000 PRINT:PRINT "YOUR FLAGSHIP HAS DETECTED A U-BOAT APPROACHING AT 5 ";
2005 PRINT "FATHOMS."
2010 P=1
2020 GOTO 410
2030 PRINT "YOUR SUBMARINE DETECTION EQUIPMENT READS THE RANGE TO THE";
2031 PRINT " TARGET,"
2040 T=INT(T-1500)
2050 IF T<0 THEN 410
2060 PRINT "AS";T;"METERS."
2080 PRINT "THE U-BOAT HAS COMMENCED FIRING TORPEDOES AT YOUR SHIPS."
2090 GOTO 1490
2100 PRINT "HIS FIRST TORPEDO EXPLODED";(INT(P4)-50);"METERS BEHIND";
2105 PRINT " YOUR SHIP."
2120 GOTO 1560
2130 PRINT "DEPTH CHARGE EXPLODED";ABS(E);"METERS SHORT OF TARGET."
2150 GOTO 1590
2160 PRINT "DEPTH CHARGE EXPLODED";ABS(E);"METERS AFT OF TARGET."
2180 GOTO 1590
2190 PRINT "THE ENEMY TORPEDO EXPLODED";(INT(P1)-50);"METERS IN"
2201 PRINT "FRONT OF YOUR SHIP."
2210 GOTO 490
2220 END
```



Shoot (미사일 발사)

가까운 미래의 이야기가 될지도 모르겠다. 전우주에 핵전쟁이 발발……! 최후의 생존자는 당신과, 적의 혹성에 있는 한 사람뿐이다. 이 두 생존자가 또다시 싸운다(사이 좋게 지내면 좋을 텐데…). 두 생존자는 각각 최후의 미사일 기지를 발견했다. 용케도 미사일 기지망은 서로 같은 구성, 같은 성능으로 건설된 것이다.

각 플레이어는 10×10의 미사일 매트릭스(matrix) 상에서 작전을 향한다. 매트릭스의 교점에는, 각각 미니 미사일 기지가 있다. 또, 각 미니 기지에는 컴퓨터 터미널이 있어, 안전 거리에 설치된 탐지 메인컴퓨터에 연결되어 있다. 각 터미널로부터 시시 각각 정세의 흐름을 알 수 있는 것이다. 미사일 구조상, 미사일을 발사한 일대는 방사능으로 오염되어 도저히 생물이 생존할 수 없다. 물론 미사일이 명중한 장소는 피해가 더욱 심해, 거기에 발을 들여놓는다는 것은 바로 죽음을 뜻한다.

다른 멤버가 다 죽은 지금, 모든 기기는 수동으로 조작하지 않을 수 없다. 목표 교점을 세트하고 요격 미사일의 신관을 장치한다. 그런 다음 플레이어는, 위험 탐지기를 장비한 소형 shuttle car로 현장에서 피난해야 한다. 그런데 남아 있는 힘에 제한이 있어, 위, 아래, 비스듬히의 어느 방향으로든 2 유니트밖에 이동할 수 없다. 이 때가 대단히 위험하다. 플레이어가 탐지 컴퓨터로부터 떨어지므로, 그 동안 적의 미사일이 어디를 노리고 낙하해 오는지 전혀 알 수가 없기 때문이다.

새로운 기지로 이동하고 있는 동안에 미사일은 궤도의 정점에 달한다. 그 싯점에서, 컴퓨터는 공격에 성공했는지, 반대로 미사일이 그 기지에 낙하중인지, 또는 서로 충돌하였는지를 알려 준다. 만약 적(敵) 미사일이 그 지점에 낙하중이었다면, 이미 절체 절명(絶體絶命), 도망칠 길이 없다. shuttle car의 에너지 보급에 요구되는 시간은 적 미사일의 낙하 시간보다 길다. 어느 쪽인가의 플레이어가 불행하게도 구석에 쫓긴 경우에도, 누출되는 방사능에 당하고 마는 것이다.

이와 같이 죽이는가 죽는가의 게임인데, 단지 운명에 맡기지 말고, 여러 가지 전략을 구사해서 적을 퇴치하기 바란다.

프로그램 해설

440행~490행 : 3조의 프린트 문자열을 사용하고 있다. S$는 14스페이스의 문자열이 된다.

510행~530행 : 4조 행렬의 첨자 범위를 정의하고, 초기 게임의 진행 데이터를 세트한다. 행렬 'I', 'H'는 플레이어용 전장을 세트하고, 적의 영역은 'I'와 'HE'로 표현되어 있다. 행렬 'T'는 적이 사용하는 일시적인 리스트로, 게임을 재미있게 하기 위해 고안된 것이다. 교전할 때마다 적의 이동 범위가 표시되어, 자기의 이동 목표를 생각할 수 있다. 'P'는 이동할 수 있는 8조의 교점을 표시한다. 530행을 변경하면, 게임을 더욱 어렵게, 또는 재미있게 할 수 있다. 2를 1로 하거나, 이동 한도를 2에서 1로 하는 등, 여러 가지로 바꾸어 보면 재미있을 것이다.

540행~730행 : 적이 출발하는 코너 교점을 난수로 결정한다. 다음에, 자기 쪽을 zero 분기하고, 남겨 두는 구역을 결정하기 위해서, 640행~680행으로 아직 사용하지 않는 구역을 안다. 마음에 들지 않는 경우에는 키이 입력으로 처리할 수도 있다. 데이터는 'P'에 덤프되어 있다.

740행~820행 : 여기에서 적의 작전이 리세트되며, 이쪽의 착수점이 입력되어 체크된다. 그리고, 여기에 확인 스위치가 세트되어 있어서, 작전도가 화면에 나타난다. 그러고 드디어 메인 프로그램으로 진행.

830행~920행 : 여기에서 미사일과 이동 지점의 좌표가 주어져, 유효한지 어떤지 체크한다.

930행~1080행 : 여기에서 적이 이쪽의 이동 지점을 판단하여 미사일의 조준을 결정한다.

1090행~1280행 : 상대가 이동 지점을 결정한다. 만약 적이 구석에 몰려 있으면, 그에게 살아날 가망이 없다는 것을 전하고, 미사일을 발사하지 않도록 대처한다. 또는, 적이 다음의 근거할 교점을 지정해 온다.

1290행~1480행 : 그런데, 각각 이동할 수 있는 만큼 이동하여 적을 잡았는지 어떤지, 1430행~1480행에서 플레이어가 유효한 이동을 하였는지를 판단하여, 만약 실패했다면, 또 하나의 메시지(message)가 출력되고 플레이어는 조용히 죽게 된다.

1490행~1780행 : 여기에서 2조의 행렬 출력이 끝나고, 어느 쪽이 쓰러졌는지 'Z'가 체크되어, 양쪽이 모두 살아 있으면, 다음 회로 진행하거나 프로그램이 종료된다.

The program and description were written by David Spencer.

```
RUN
                         SHOOT
                  CREATIVE COMPUTING
                MORRISTOWN, NEW JERSEY


DO YOU WANT INSTRUCTIONS? YES   설명이 필요합니까?

 IT IS THE FINAL HOUR OF MAN. YOU AND A WARRING NATION
HAVE ENTERED INTO A LAST CONTEST. ALL THE LIFE NOW LEFT ON
EARTH ARE YOU AND YOUR ENEMY. BOTH HE AND YOU HAVE FOUND THE
LAST REMAINING ATOMIC MISSILE SILO MATRICES ESTABLISHED BY
THE NOW-DEAD SUPERPOWERS. HE, LIKE YOU, WISHES NOT TO DIE
BUT TO LIVE IN PEACE.
 HOWEVER IT HAS BECOME APPARENT THAT HE FEELS HIS PEACE
THREATENED AND IS PREPARING AN ATTACK. BOTH YOU AND HE HAVE
SCANNERS THAT WILL WARN YOU OF HIS MOVEMENTS AND TRACK THE
FLIGHT OF HIS ATOMIC MISSILES, THUS HE IS WORKING SLOWLY.
THE ENEMY, LIKE YOURSELF, HAS A MISSILE GRID NEARLY
IDENTICAL IN STRUCTURE AND OPERATION TO YOURS, BECAUSE YOU
ARE THE ONLY ONE LEFT, IT WILL BE NECESSARY TO FIRE ALL YOUR
MISSILES MANUALLY. ONCE THE FUSE IS SET, YOU MUST FLEE THE
AREA AND GET TWO GRID UNITS AWAY. YOU MAY NEVER RETURN TO
THIS SPOT, OR A SPOT WHERE A MISSILE HAS LANDED; THE
RADIATION IS INTENSE AND WOULD MEAN AN INSTANT, PAINFUL
DEATH.
 SO THE STAGE HAS BEEN SET. THERE IS PEACE UNTIL THE
SIGN THAT THE ENEMY HAS MOVED TO HIS MISSILE RANGE. HE WILL
FIRE EVERY TIME YOU WILL, AND DO SO UNTIL ONE OF YOU IS
DESTROYED.
 EACH TIME A ROUND OF MISSILES HAS BEEN FIRED, THE
SCANNERS WILL REPORT THE STATUS OF BOTH YOUR'S AND THE ENEMY'S
GRID TERRITORY. IT WILL SHOW ALL AREAS THAT HAVE HAD EITHER
A MISSILE HIT OR A MISSILE FIRED FROM IT. WITH THIS
CONTINUALLY UPDATED MAP, YOU MAY BE ABLE TO INDUCTIVELY
DISCOVER OR TRAP YOUR OPPONENT. BEWARE, HE WILL BE TRYING TO
DO THE SAME TO YOU.

SCANNER COMPUTER: ENEMY ACTIVITY ON GRID AT 10 , 1  적은 10. 1

YOUR STARTING CO-ORDINATES? 3,3   어디서 시작하겠읍니까?

 YOUR TERRITORY 당신의 영역    ENEMY TERRITORY  적의 영역

   12345678910                 12345678910
 1 ::::::::::                1 ::::::::::
 2 ::::::::::                2 ::::::::::
 3 ::*:::::::                3 ::::::::::
 4 ::::::::::                4 ::::::::::
 5 ::::::::::                5 ::::::::::
 6 ::::::::::                6 ::::::::::
 7 ::::::::::                7 ::::::::::
 8 ::::::::::                8 ::::::::::
 9 ::::::::::                9 ::::::::::
10 ::::::::::               10 *:::::::::

MISSILE CO-ORDINATES? 10,4  미사일의 위치는 어디로 하겠읍니까?
WHERE TO MOVE TO? 3,5   어디로 움직이겠읍니까?

SCANNER COMPUTER: HEY! YOU GOT HIM!! 당했읍니다!
 YOUR TERRITORY              ENEMY TERRITORY

   12345678910                 12345678910
 1 ::::*:::::                1 ::::::::::
 2 ::::::::::                2 ::::::::::
 3 ::*:::::::                3 ::::::::::
 4 ::::::::::                4 ::::::::::
 5 ::::::::::                5 ::::::::::
 6 ::::::::::                6 ::::::::::
 7 ::::::::::                7 ::::::::::
 8 ::::::::::                8 ::::::::::
 9 ::::::::::                9 ::::::::::
10 ::::::::::               10 *::*::::::

OK
```

```
RUN
                         SHOOT
                  CREATIVE COMPUTING
                MORRISTOWN, NEW JERSEY

DO YOU WANT INSTRUCTIONS? NO
SCANNER COMPUTER: ENEMY ACTIVITY ON GRID AT 1 , 1

YOUR STARTING CO-ORDINATES? 2,5

 YOUR TERRITORY              ENEMY TERRITORY

   12345678910                 12345678910
 1 ::::::::::                1 *:::::::::
 2 ::::*:::::                2 ::::::::::
 3 ::::::::::                3 ::::::::::
 4 ::::::::::                4 ::::::::::
 5 ::::::::::                5 ::::::::::
 6 ::::::::::                6 ::::::::::
 7 ::::::::::                7 ::::::::::
 8 ::::::::::                8 ::::::::::
 9 ::::::::::                9 ::::::::::
10 ::::::::::               10 ::::::::::

MISSILE CO-ORDINATES? 4,1
WHERE TO MOVE TO? 2,7

 YOUR TERRITORY              ENEMY TERRITORY

   12345678910                 12345678910
 1 ::::::::::                1 *:::::::::
 2 ::::*:::::                2 ::::::::::
 3 ::::::::::                3 ::::::::::
 4 ::*:::::::                4 *:::::::::
 5 ::::::::::                5 ::::::::::
 6 ::::::::::                6 ::::::::::
 7 ::::::::::                7 ::::::::::
 8 ::::::::::                8 ::::::::::
 9 ::::::::::                9 ::::::::::
10 ::::::::::               10 ::::::::::

MISSILE CO-ORDINATES? 1,5
WHERE TO MOVE TO? 2,9

 YOUR TERRITORY              ENEMY TERRITORY

   12345678910                 12345678910
 1 ::::::::::                1 *:*:*:::::
 2 ::::*:*:*:                2 ::::::::::
 3 ::::::::::                3 ::::::::::
 4 ::*:::::::                4 *:::::::::
 5 ::::::::::                5 ::::::::::
 6 ::::::::::                6 ::::::::::
 7 ::::::::::                7 ::::::::::
 8 ::::::::::                8 ::::::::::
 9 ::::::::::                9 ::::::::::
10 ::::::::::               10 ::::::::::

MISSILE CO-ORDINATES? 3,4
WHERE TO MOVE TO? 3,9
WHERE TO MOVE TO? 4,9

 YOUR TERRITORY              ENEMY TERRITORY

   12345678910                 12345678910
 1 ::::::::::                1 *:*:*:::::
 2 ::::*:*:*:                2 ::::::::::
 3 ::::::::::                3 ::**::::::
 4 ::*:::*:::                4 *:::::::::
 5 ::::::::::                5 ::::::::::
 6 ::::::::::                6 ::::::::::
 7 ::::::::::                7 ::::::::::
 8 ::::::::::                8 ::::::::::
 9 ::::::::::                9 ::::::::::
10 ::::::::::               10 ::::::::::

MISSILE CO-ORDINATES? 5,5
WHERE TO MOVE TO? 6,9

SCANNER COMPUTER: HEY! YOU GOT HIM!!
SCANNER COMPUTER: YOU MOVED RIGHT UNDER HIS MISSILE!!
 YOUR TERRITORY              ENEMY TERRITORY

   12345678910                 12345678910
 1 ::::::::::                1 *:*:*:::::
 2 ::::*:*:*:                2 ::::::::::
 3 ::::::::::                3 ::***:::::
 4 ::*:::*:*:                4 *:::::::::
 5 ::::::::::                5 ::::*:::::
 6 ::::::::*:                6 ::::::::::
 7 ::::::::::                7 ::::::::::
 8 ::::::::::                8 ::::::::::
 9 ::::::::::                9 ::::::::::
10 ::::::::::               10 ::::::::::
```

```
10 PRINT TAB( 26);"SHOOT"
20 PRINT TAB( 20);"CREATIVE COMPUTING"
30 PRINT TAB( 18);"MORRISTOWN, NEW JERSEY"
40 PRINT:PRINT:PRINT
110 INPUT "DO YOU WANT INSTRUCTIONS";A$
120 IF LEFT$(A$,1)<>"Y" GOTO 440
130 PRINT
140 PRINT " IT IS THE FINAL HOUR OF MAN. YOU AND A WARRING NATION"
150 PRINT "HAVE ENTERED INTO A LAST CONTEST. ALL THE LIFE NOW LEFT ON"
160 PRINT "EARTH ARE YOU AND YOUR ENEMY. BOTH HE AND YOU HAVE FOUND THE"
170 PRINT "LAST REMAINING ATOMIC MISSILE SILO MATRICES ESTABLISHED BY"
180 PRINT "THE NOW-DEAD SUPERPOWERS. HE, LIKE YOU, WISHES NOT TO DIE"
190 PRINT "BUT TO LIVE IN PEACE."
195 PRINT
200 PRINT " HOWEVER IT HAS BECOME APPARENT THAT HE FEELS HIS PEACE"
210 PRINT "THREATENED AND IS PREPARING AN ATTACK. BOTH YOU AND HE HAVE"
220 PRINT "SCANNERS THAT WILL WARN YOU OF HIS MOVEMENTS AND TRACK THE"
230 PRINT "FLIGHT OF HIS ATOMIC MISSILES. THUS HE IS WORKING SLOWLY."
240 PRINT "THE ENEMY, LIKE YOURSELF, HAS A MISSILE GRID NEARLY"
250 PRINT "IDENTICAL IN STRUCTURE AND OPERATION TO YOURS. BECAUSE YOU"
260 PRINT "ARE THE ONLY ONE LEFT, IT WILL BE NECESSARY TO FIRE ALL YOUR"
270 PRINT "MISSILES MANUALLY. ONCE THE FUSE IS SET, YOU MUST FLEE THE"
280 PRINT "AREA AND GET TWO GRID UNITS AWAY. YOU MAY NEVER RETURN TO"
290 PRINT "THIS SPOT, OR A SPOT WHERE A MISSILE HAS LANDED; THE"
300 PRINT "RADIATION IS INTENSE AND WOULD MEAN AN INSTANT, PAINFUL"
310 PRINT "DEATH."
315 PRINT:LINE INPUT "ENTER 'RETURN' TO CONTINUE. ";XX$:PRINT CHR$(26)
320 PRINT " SO THE STAGE HAS BEEN SET. THERE IS PEACE UNTIL THE"
330 PRINT "SIGN THAT THE ENEMY HAS MOVED TO HIS MISSILE RANGE. HE WILL"
340 PRINT "FIRE EVERY TIME YOU WILL, AND DO SO UNTIL ONE OF YOU IS"
350 PRINT "DESTROYED."
355 PRINT
360 PRINT " EACH TIME A ROUND OF MISSILES HAS BEEN FIRED, THE"
370 PRINT "SCANNERS WILL REPORT THE STATUS OF BOTH YOUR'S AND THE ENEMY'S"
380 PRINT "GRID TERRITORY. IT WILL SHOW ALL AREAS THAT HAVE HAD EITHER"
390 PRINT "A MISSILE HIT OR A MISSILE FIRED FROM IT. WITH THIS"
400 PRINT "CONTINUALLY UPDATED MAP, YOU MAY BE ABLE TO INDUCTIVELY"
410 PRINT "DISCOVER OR TRAP YOUR OPPONENT. BEWARE, HE WILL BE TRYING TO"
420 PRINT "DO THE SAME TO YOU."
430 PRINT
440 G$="   12345678910"
450 C$="SCANNER COMPUTER: "
460 S$=""
470 FOR X=1 TO 14
480 S$=S$+" "
490 NEXT X
510 DIM I(10,10),H(10,10),T(8,2),P(8,2)
520 DATA 10,10 , 1,1 , 10,1 , 1,10 , 10,9 , 9,10 , 1,2 , 2,1
530 DATA -2,-2 , 0,-2, 2,-2, 2,0 , 2,2 , 0,2 ,-2,2 ,-2,0
540 R=INT(RND(1)*8+1)
550 FOR X=1 TO R
560 READ A,B
570 NEXT X
580 FOR X=1 TO 10
590 FOR Y=1 TO 10
600 I(X,Y)=0
610 H(X,Y)=0
620 NEXT Y
630 NEXT X
640 IF A=2 GOTO 690
650 FOR X=1 TO 8
660 READ C,D
670 IF C=2 GOTO 690
680 NEXT X
690 FOR X=1 TO 8
700 FOR Y=1 TO 2
710 READ P(X,Y)
720 NEXT Y
730 NEXT X
740 PRINT C$;"ENEMY ACTIVITY ON GRID AT";A;",";B
750 PRINT
760 INPUT "YOUR STARTING CO-ORDINATES";E,F
770 IF E<1 OR E>10 OR F<1 OR F>10 GOTO 760
780 Z=1
790 I(E,F)=1
800 H(A,B)=1
810 PRINT
820 GOTO 1490
830 INPUT "MISSILE CO-ORDINATES";M,N
840 IF M<1 OR M>10 OR N<1 OR N>10 GOTO 830
850 INPUT "WHERE TO MOVE TO";S,T
860 IF S<1 OR S>10 OR T<1 OR T>10 GOTO 850
870 IF I(S,T)=1 GOTO 850
880 FOR X=1 TO 8
890 IF P(X,1)+E=S AND P(X,2)+F=T GOTO 920
900 NEXT X
910 GOTO 850
920 PRINT
930 L=1
940 FOR X=1 TO 8
950 IF P(X,1)+E>10 OR P(X,1)+E<1 OR P(X,2)+F>10 OR P(X,2)+F<1 GOTO 1000
960 IF  I(P(X,1)+E,P(X,2)+F)=1 GOTO 1000
970 T(L,1)=P(X,1)+E
980 T(L,2)=P(X,2)+F
990 L=L+1
1000 NEXT X
1010 L=L-1
1020 IF L<>1 GOTO 1060
1030 C=T(L,1)
1040 D=T(L,2)
1050 GOTO 1090
1060 G=INT(RND(1)*L+1)
1070 C=T(G,1)
1080 D=T(G,2)
1090 L=1
1100 FOR X=1 TO 8
1110 IF P(X,1)+A>10 OR P(X,1)+A<1 OR P(X,2)+B>10 OR P(X,2)+B<1 GOTO 1160
1120 IF H(P(X,1)+A,P(X,2)+B)=1 GOTO 1160
1130 T(L,1)=P(X,1)+A
1140 T(L,2)=P(X,2)+B
1150 L=L+1
1160 NEXT X
1170 L=L-1
1180 IF L<>0 GOTO 1220
1190 PRINT C$;"THE ENEMY HAS CORNERED HIMSELF IN!!"
1200 Z=0
1204 C=E
1207 D=F
1210 GOTO 1290
1220 IF L<>1 GOTO 1260
1230 J=T(1,1)
1240 K=T(1,2)
1250 GOTO 1290
1260 G=INT(RND(1)*L+1)
1270 J=T(G,1)
1280 K=T(G,2)
1290 I(E,F)=1
1300 H(A,B)=1
1310 I(C,D)=1
1320 H(M,N)=1
1330 IF M<>J OR D<>T GOTO 1390
1340 PRINT C$;"HEY! YOU GOT HIM!!"
1350 Z=0
1360 IF C<>S OR D<>T GOTO 1390
1370 PRINT C$;"YOU MOVED RIGHT UNDER HIS MISSILE!!"
1380 Z=0
1390 E=S
1400 F=T
1410 A=J
1420 B=K
1430 FOR X=1 TO 8
1440 IF P(X,1)+E>10 OR P(X,1)+E<1 OR P(X,2)+F>10 OR P(X,2)+F<1 GOTO 1460
1450 IF I(P(X,1)+E,P(X,2)+F)=0 GOTO 1490
1460 NEXT X
1470 PRINT C$;"FOOL! YOU HAVE BOXED YOURSELF INTO A CORNER!!"
1480 Z=0
1490 PRINT " YOUR TERRITORY ","ENEMY TERRITORY"
1500 PRINT
1510 PRINT G$;S$;G$
1520 FOR X=1 TO 10
1530 IF X=10 GOTO 1560
1540 PRINT X;
1550 GOTO 1570
1560 PRINT "10 ";
1570 FOR Y=1 TO 10
1580 IF I(X,Y)=1 GOTO 1610
1590 PRINT ":";
1600 GOTO 1620
1610 PRINT "*";
1620 NEXT Y
1630 PRINT " ";S$;
1640 IF X=10 GOTO 1670
1650 PRINT X;
1660 GOTO 1680
1670 PRINT "10 ";
1680 FOR Y=1 TO 10
1690 IF H(X,Y)=1 GOTO 1720
1700 PRINT ":";
1710 GOTO 1730
1720 PRINT "*";
1730 NEXT Y
1740 PRINT
1750 NEXT X
1760 PRINT
1770 IF Z=1 GOTO 830
1780 END
```

Smash (스매쉬)

이 게임은 고물 자동차 레이스이다. 당신의 가장 큰 문제는, 코스가 어떤 모양으로 되어 있는지, 코너를 도는 안전 속도는 어느 정도인지를 모른다는 것이다. 그래서 너무 부딪치거나, 반대로 너무 천천히 달려서 게임에 지고 만다. 그러나, 게임을 4~5회 정도 하면, 달리는 법도 터득하고, 코너를 보기 좋게 돌 수 있을 것이다.

```
RUN
                           SMASH
                     CREATIVE COMPUTING
                   MORRISTOWN, NEW JERSEY


DO YOU NEED INSTRUCTIONS? YES

THIS IS SMASH--THE GAME THAT SIMULATES A CAR RACE.
YOU WILL RESPOND WITH ONE OF THE FOLLOWING MANUEVERS
WHEN A '?' IS TYPED.  THE POSITION NUMBERS REFER TO THE
POINT AT WHICH YOU ARE ON THE TRACK-THEY GO AS FOLLOWS:

  1-THE START LINE   출발선
  2-MID STRAIGHT-AWAY   똑바른 길
  3-COMING UP ON A LEFT TURN 왼쪽 커브가 옵니다.
  4-MID LEFT TURN 왼쪽 커브
  5-COMING UP ON A RIGHT TURN 오른쪽 커브가 옵니다.
  6-MID-RIGHT TURN  오른쪽 커브
  7-THE FINISH LINE  결승선

     MANEUVERS  처리
  1-FLOOR IT  그대로
  2-ACCELERATE(MODERATE) 가속
  3-BRAKE SLIGHT  조금 감속
  4-JAM ON THE BRAKES 감속
  5-SHARP RIGHT  급하게 우로
  6-MODERATE RIGHT  적당히 우로
  7-SHARP LEFT  급하게 좌로
  8-MODERATE LEFT  적당히 좌로
시간              나머지 거리     속도           위치         동작
TIME(SEC)        MILES TO GO    M.P.H.        POSITION      MOVE
 0               10             0             1             ? 1
 30              9.77167        27.4          4             ? 2
 60              9.32917        53.1          3             ? 2
 90              8.55292        93.15         4             ? 3
 120             7.9012         78.2062       2             ? 1
SMASH--YOU WENT RIGHT INTO THE WALL! 벽에 충돌!
DO YOU WANT TO PLAY AGAIN? YES  다시 한 번 하겠습니까?

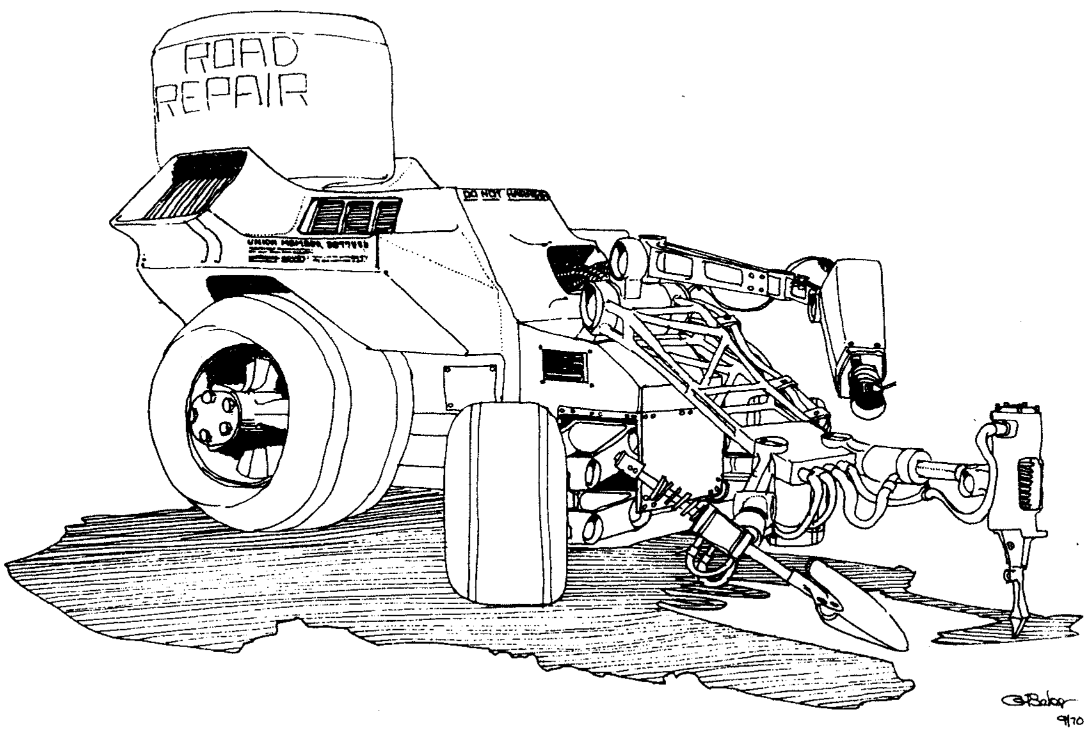
TIME(SEC)        MILES TO GO    M.P.H.        POSITION      MOVE
 0               11             0             1             ? 1
 30              10.8217        21.4          2             ? 1
 60              10.1008        86.5          2             ? 1
SMASH--YOU WENT RIGHT INTO THE WALL!

DO YOU WANT TO PLAY AGAIN? YES

TIME(SEC)        MILES TO GO    M.P.H.        POSITION      MOVE
 0               13             0             1             ? 1
 30              12.7742        27.1          3             ? 2
 60              12.3688        48.65         4             ? 2
 90              11.6623        84.775        5             ? 6
 120             10.9521        85.2287       6             ? 6
 150             10.3235        75.4221       6             ? 2
 180             9.31159        121.433       3             ? 3
 210             8.44864        103.554       4             ? 8
 240             7.56004        106.632       2             ? 2
 270             6.14713        169.549       3             ? 3
 300             4.93168        145.855       4             ? 7
 330             4.10717        98.9407       2             ? 2
 360             2.77708        159.611       3             ? 3
 390             1.63575        136.96        4             ? 7
 420             .737833        107.75        2             ? 2
 435.387         0              172.625       7
THAT ENDS THE RACE, YOU PLACED # 2  경기 끝. 당신은 2위.
YOUR AVERAGE SPEED WAS 107.491 M.P.H. 평균 속도 107.491MPH
DO YOU WANT TO PLAY AGAIN? NO
Ok
```

```
10 PRINT TAB( 26);"SMASH"
20 PRINT TAB( 20);"CREATIVE COMPUTING"
30 PRINT TAB( 18);"MORRISTOWN, NEW JERSEY"
40 PRINT:PRINT
50 DIM A(7),J(6)
70 PRINT"DO YOU NEED INSTRUCTIONS";
80 INPUT Z$
90 PRINT
100 FOR X=1 TO 7:READ A(X):NEXT X
105 FOR X=1 TO 6:READ J(X):NEXT X
120 IF LEFT$(Z$,1)="N" THEN 360
130 PRINT"THIS IS SMASH -- THE GAME THAT SIMULATES A CAR RACE. ":PRINT
140 PRINT"YOU WILL RESPOND WITH ONE OF THE FOLLOWING MANEUVERS"
150 PRINT "WHEN A '?' IS TYPED.  THE POSITION NUMBERS REFER TO THE"
160 PRINT"POINT AT WHICH YOU ARE ON THE TRACK - THEY GO AS FOLLOWS:"
170 PRINT
180 PRINT "  1 - THE START LINE"
190 PRINT "  2 - MID STRAIGHT-AWAY"
200 PRINT "  3 - COMING UP ON A LEFT TURN"
210 PRINT "  4 - MID LEFT TURN"
220 PRINT "  5 - COMING UP ON A RIGHT TURN"
230 PRINT "  6 - MID-RIGHT TURN"
240 PRINT "  7 - THE FINISH LINE"
250 PRINT:PRINT:LINE INPUT "ENTER 'RETURN' TO CONTINUE. ";XX$:PRINT CHR$(26)
260 PRINT"     MANEUVERS"
261 PRINT"    -----------"
270 PRINT"  1 - FLOOR IT"
280 PRINT"  2 - ACCELERATE (MODERATE)"
290 PRINT"  3 - BRAKE SLIGHT"
300 PRINT"  4 - JAM ON THE BRAKES"
310 PRINT"  5 - SHARP RIGHT"
320 PRINT"  6 - MODERATE RIGHT"
330 PRINT"  7 - SHARP LEFT"
340 PRINT"  8 - MODERATE LEFT"
350 PRINT:PRINT:LINE INPUT "ENTER 'RETURN' TO START THE RACE  ";XX$
360 PRINT CHR$(26):PRINT"TIME(SEC)","MILES TO GO","M.P.H.","POSITION","MOVE"
361 PRINT"---------","-----------","------","--------","----"
370 LET A=INT(10+RND(1)*5):Y=A
380 LET B=0:T=0
```

```
390 LET C=1
400 GOTO 420
410 LET C=(INT(2+RND(1)*5))
420 PRINT USING "  ###              ##.###     ###.#            ##          ";
    T,A,B,C;
430 INPUT D
440 IF D<>INT(D) THEN 470
450 IF D>8 THEN 470
460 IF D>=1 THEN 490
470 PRINT"ONE THRU EIGHT ONLY."
480 GOTO 420
490 IF D<>1 THEN 510
500 LET B=3*B+20+INT(10+RND(1)*91)/10
510 IF D<>2 THEN 530
520 LET B=3*B/2+7+INT(10+RND(1)*61)/10
530 IF D<>3 THEN 550
540 LET B=7*B/8-6+INT(10+RND(1)*41)/10
550 IF D<>4 THEN 570
560 LET B=4*B/7-26+INT(10+RND(1)*81)/10
570 IF D=7 THEN 590
580 IF D<>5 THEN 600
590 LET B=9*B/10*(.7+RND(1)*.6)
600 IF D=8 THEN 620
610 IF D<>6 THEN 630
620 LET B=13*B/14*(.7+RND(1)*.6)
630 IF B>0 THEN 650
640 LET B=0
650 IF A-B/120>0 THEN 730
660 LET T=T+A*3600/B
670 PRINT USING "  ###              ##.###     ###.#            ##          ";
    T,0,B,7
680 PRINT:PRINT"THAT ENDS THE RACE.  YOU PLACED #"INT(T/(20*Y)+.5);CHR$(8);".":
    PRINT
690 PRINT"YOUR AVERAGE SPEED WAS"Y*3600/T"M.P.H."
700 IF INT(T/(20*Y)+.5)<>1 THEN 980
710 PRINT"THAT WAS A PERFECT RACE, CHAMP!"
720 GOTO 980
730 IF C<>2 THEN 760
740 IF D=7 THEN 960
750 IF D=5 THEN 960
760 IF C=3 THEN 780
770 IF C<>4 THEN 800
780 IF D=5 THEN 960
790 IF D=6 THEN 960
800 IF C=6 THEN 820
810 IF C<>5 THEN 840
820 IF D=7 THEN 960
830 IF D=8 THEN 960
840 IF B>J(C) THEN 970
850 IF INT(1+RND(0)*77)<>40 THEN 880
860 PRINT "SMASH -- YOU HAVE BEEN HIT BY ANOTHER CAR!!"
870 GOTO 980
880 LET T=T+30
890 LET A=A-B/120
900 IF C=1 THEN 410
910 IF C=4 THEN 410
920 IF C=2 THEN 410
930 IF C=6 THEN 410
940 LET C=C+1
950 GOTO 420
960 PRINT"BAD MOVE!"
970 PRINT "SMASH -- YOU WENT RIGHT INTO THE WALL!"
980 PRINT:PRINT"DO YOU WANT TO PLAY AGAIN";
990 INPUT Z$
1000 IF LEFT$(Z$,1)="Y" THEN 360
1020 DATA 2,3,5,2,3,5,2,200,240,180,170,180,170
1030 END
```



Strike 9 (스트라이크 9)

1부터 9까지의 숫자와 주사위 한 쌍으로 플레이한다. 맨 처음 컴퓨터는 아무 수나 닥치는 대로 당신에게 할당해 온다. 그러면 당신은, 1~9의 board number 중 임의의 갯수(한 개여도 됨)를 취하여 그 합계가, 컴퓨터가 당신에게 할당해 온 수가 되도록 하여, 그 수를 빼앗는다. 모든 board number를 빼앗으면 승리한다. 주사위를 던질 때마다 보오드로부터 board number를 빼앗지 못하면 진다.

게임 요령은, 던져서 나온 주사위의 눈의 가장 큰 수를 빼앗든지, 보다 많은 갯수를 빼앗는 것이다. 예를 들면, 10이 나왔을 때에는 1과 9를 취하는 대신 1, 2, 3, 4를 취하는 것이다. 친구와 함께 할 때에는 플레이어는 교대로 게임을 진행한다.

Strike 9 was conceived by Bruce Grembowski and first appeared in *Creative Computing*, Jan/Feb 1977.

```
RUN
                         STRIKE 9
                   CREATIVE COMPUTING
                  MORRISTOWN  NEW JERSEY

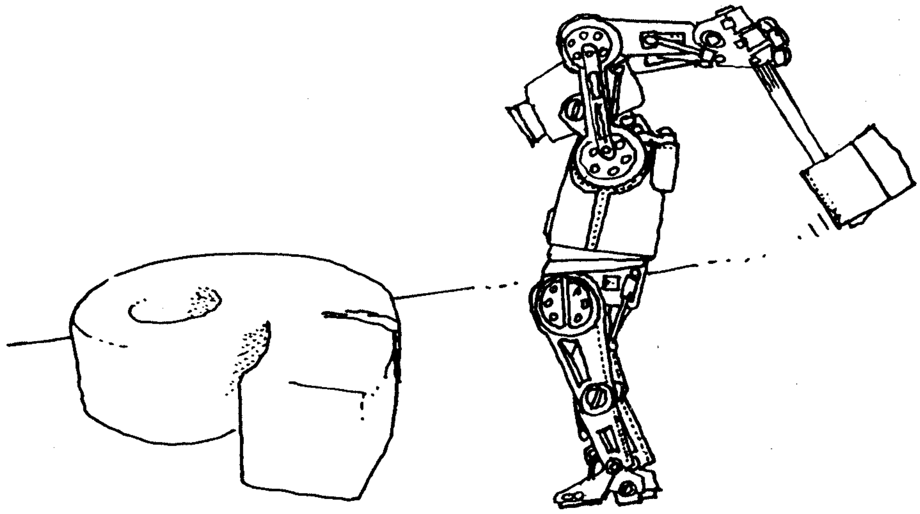

DO YOU NEED INSTRUCTIONS ? YES
STRIKE NINE IS PLAYED WITH A PAIR OF DICE AND A
BOARD WITH NINE NUMBERS: 1 2 3 4 5 6 7 8 9. YOU
ARE GIVEN A ROLL AND CAN KNOCK OFF UP TO 4 NUMBERS.
IF YOU INPUT THAT YOU WANT TO REMOVE 5 NUMBERS, YOU
WILL BE GIVEN A CHART OF THE NUMBERS YOU HAVE LEFT
TO REMOVE. NEXT YOU INPUT HOW MANY NUMBERS YOU WANT
TO REMOVE, AND THEN INPUT THE NUMBERS YOU WANT TO
TAKE OFF, ONE AT A TIME. THE NUMBERS YOU TAKE OFF
MUST ADD UP TO THE ROLL. YOU WIN BY REMOVING EVERY
NUMBER FROM THE BOARD. YOU LOSE IF YOU CANNOT
REMOVE ALL NUMBERS WITH THE ROLL YOU HAVE.

READY TO PLAY?  시작해도 되겠읍니까?

HERE IS THE BOARD:   1  2  3  4  5  6  7  8  9
YOUR ROLL IS   8
# OF NUMBERS TO REMOVE ? 1  몇 개 취하겠읍니까?
WHAT IS THE NUMBER? 8   어느 것입니까?
YOUR ROLL IS   3
# OF NUMBERS TO REMOVE ? 2
WHAT IS THE NUMBER? 2
? 1
YOUR ROLL IS   6
# OF NUMBERS TO REMOVE ? 1
WHAT IS THE NUMBER? 6
YOUR ROLL IS   9
# OF NUMBERS TO REMOVE ? 1
WHAT IS THE NUMBER? 9
YOUR ROLL IS   7
# OF NUMBERS TO REMOVE ? 1
WHAT IS THE NUMBER? 7
YOUR ROLL IS   9
# OF NUMBERS TO REMOVE ? 5
THE NUMBERS YOU HAVE LEFT TO REMOVE ARE:   3  4  5
# OF NUMBERS TO REMOVE ? 2       ↘ 3, 4, 5가  남았읍니다.
WHAT IS THE NUMBER? 5
? 4
YOUR ROLL IS   7
SORRY, YOU LOST THIS TIME.  미안, 실패입니다.
THERE ARE  1  NUMBERS LEFT ON THE BOARD:    3  3이 남았읍니다.
WANT TO TRY AGAIN (YES OR NO)? NO
OK
```

```
10 PRINT TAB( 25);"STRIKE 9"
20 PRINT TAB( 19);"CREATIVE COMPUTING"
30 PRINT TAB( 18);"MORRISTOWN  NEW JERSEY"
90 DIM A(9),D(4)
110 PRINT:PRINT
170 PRINT "DO YOU NEED INSTRUCTIONS";
180 INPUT R$
190 IF LEFT$(R$,1)="N" THEN 340
200 IF LEFT$(R$,1) <> "Y" THEN 170
210 PRINT:PRINT "STRIKE NINE IS PLAYED WITH A PAIR OF DICE AND A"
220 PRINT "BOARD WITH NINE NUMBERS: 1 2 3 4 5 6 7 8 9. YOU"
230 PRINT "ARE GIVEN A ROLL AND CAN KNOCK OFF UP TO 4 NUMBERS."
240 PRINT "IF YOU INPUT THAT YOU WANT TO REMOVE 5 NUMBERS, YOU"
250 PRINT "WILL BE GIVEN A CHART OF THE NUMBERS YOU HAVE LEFT"
260 PRINT "TO REMOVE.  NEXT YOU INPUT HOW MANY NUMBERS YOU WANT"
270 PRINT "TO REMOVE, AND THEN INPUT THE NUMBERS YOU WANT TO "
280 PRINT "TAKE OFF, ONE AT A TIME.  THE NUMBERS YOU TAKE OFF"
290 PRINT "MUST ADD UP TO THE ROLL.  YOU WIN BY REMOVING EVERY"
300 PRINT "NUMBER FROM THE BOARD.  YOU LOSE IF YOU CANNOT"
310 PRINT "REMOVE ALL NUMBERS WITH THE ROLL YOU HAVE."
320 PRINT
340 PRINT
350 PRINT
355 PRINT "HERE IS THE BOARD:  ";
360 REM SET UP THE BOARD
370 FOR B=1 TO 9
380 PRINT B;
390 A(B)=B
400 NEXT B
405 PRINT
410 C=INT(RND(1)*6+1)+INT(RND(1)*6+1)
420 PRINT:PRINT "YOUR ROLL IS";C;CHR$(8);"."
430 T=0
440 FOR X=1 TO 9
450 T=T+A(X)
460 NEXT X
465 REM CHECK FOR LOSS
470 IF C > T THEN 950
480 IF C=T THEN 1120
490 FOR K=1 TO 9
500 FOR L=1 TO 9
510 FOR M=1 TO 9
520 FOR N=1 TO 9
530 IF N=K THEN 630
540 IF N=L THEN 630
550 IF N=M THEN 630
560 IF M=K THEN 640
```

```
570 IF M=L THEN 640
580 IF L=K THEN 650
590 IF C-A(K)=0 THEN 680
600 IF C-A(K)=A(N) THEN 680
610 IF C-A(K)-A(L)=A(N) THEN 680
620 IF C-A(K)-A(M)=A(N) THEN 680
630 NEXT N
640 NEXT M
650 NEXT L
660 NEXT K
670 GOTO 950
680 FOR X=1 TO 4
690 D(X)=0
700 NEXT X
710 PRINT "# OF NUMBERS TO REMOVE";
720 INPUT E
730 IF INT(E) <> E THEN 760
740 IF E < 1 THEN 760
750 IF E>4 THEN 880
755 GOTO 770
760 PRINT "ANSWER 1, 2, 3 OR 4 (5 FOR THE BOARD)."
765 GOTO 710
770 IF E=1 THEN PRINT "WHAT IS THE NUMBER"; ELSE PRINT "WHAT ARE THE NUMBERS";
780 FOR F=1 TO E
790 INPUT D(F)
800 IF A(D(F)) <> 0 THEN 825
810 PRINT "YOU REMOVED IT BEFORE, TRY AGAIN."
820 GOTO 710
825 NEXT F
830 IF C <> D(1)+D(2)+D(3)+D(4) THEN 870
835 FOR F=1 TO E
840 A(D(F))=0
850 NEXT F
860 GOTO 410
870 PRINT "THOSE NUMBERS DON'T ADD UP TO YOUR ROLL, TRY AGAIN."
875 GOTO 710
880 PRINT "THE NUMBERS YOU HAVE LEFT TO REMOVE ARE:  ";
890 FOR B=1 TO 9
900 IF A(B)=0 THEN 920
910 PRINT A(B);
920 NEXT B
930 PRINT
940 GOTO 710
950 PRINT "SORRY, YOU LOST THIS TIME."
960 T=0
970 FOR B=1 TO 9
980 IF A(B)=0 THEN 1000
990 T=T+1
1000 NEXT B
1010 PRINT "THERE ARE";T;"NUMBERS LEFT ON THE BOARD:  ";
1020 FOR X=1 TO 9
1030 IF A(X)=0 THEN 1050
1040 PRINT A(X);
1050 NEXT X
1060 PRINT
1070 PRINT "WANT TO TRY AGAIN (YES OR NO)";
1080 INPUT G$
1090 IF LEFT$(G$,1)="Y" THEN 170
1100 IF LEFT$(G$,1) <> "N" THEN 1070
1110 END
1120 PRINT "* * * CONGRATULATIONS * * *"
1130 PRINT "* YOU WON *"
1140 PRINT
1150 PRINT
1160 PRINT "PLAY ANOTHER GAME (YES OR NO)";
1170 INPUT H$
1180 IF LEFT$(H$,1)="Y" THEN 170
1190 IF LEFT$(H$,1) <> "N" THEN 1160
1200 END
```



Tennis (테니스)

컴퓨터와의 테니스 시합이다. 시작하고 싶은 코트, shot의 장소, shot의 속도나 타이프(type)를 선택할 수 있다. 실제의 테니스에서도 그렇지만, 하려고 하는 shot을 자유롭게 할 수 있는 것은 아니다. 프로그램에 의해, 높은 수준이나 낮은 수준, 또는 중간 수준으로 시합을 진행시킬 수 있다. 만약 좀더 능숙하게, 또는 서투르게 시합을 하고 싶으면, 어느 정도의 miss shot을 내는지로 조건을 바꿀 수도 있다.

Tennis was written by Victor Nahigian and David Ahl.

```
RUN
                    TENNIS MATCH
         CREATIVE COMPUTING, MORRISTOWN, NEW JERSEY


THERE ARE SEVERAL OPTIONS AVAILABLE TO YOU AS TO POSITION,
PLACEMENT OF SHOT, AND SPEED (TYPE) OF SHOT.  THE KEY THAT
YOU WILL USE IS...
    POSITION(PLACEMENT, TOO): L.BACKCOURT(1);R.BACK-
COURT(2); L. FORECOURT(3); R. FORECOURT(4).
    SPEED (TYPE) OF SHOT: FAST-SLAM(S);SLOWLOB(L).
   BACKHANDS AND FOREHANDS WILL MERELY BE ASSUMED AS YOU
SHOOT FROM A CERTAIN SECTION OF THE COURT.
    ON SERVES, YOU CANNOT HAVE PLACEMENT OPTIONS, BUT YOU
WILL BE ABLE TO ALTER THE SPEED OF IT.  BY THE WAY, YOU
WILL BE ALLOWED TO SERVE FIRST IN ALL GAMES.
        ARE YOU READY?... HERE WE GO!!!  준비는?
                                          자, 시작하십시다.

     SERVE!  TYPE? S   서브! 타입은?
          SERVE IS BAD  서브 실패.
          SERVE AGAIN!!    TYPE? S  다시 한 번!
          SERVE IS BAD... DOUBLE FAULT!  실패……두 번

               SCORE    LOVE15


     SERVE!   TYPE? S
          SERVE IS BAD
          SERVE AGAIN!!    TYPE? S
          LET SERVE... TAKE 1
          SERVE AGAIN!!    TYPE? S
           SERVE IS GOOD... CAN'T RETURN IT!!  리턴 되었습니다.

               SCORE     15 - 15


      SERVE!   TYPE? S
          SERVE HAS BEEN RETURNED...

         당신의 위치는? WHAT IS YOUR POSITION?? 1
어느 타입의 숏을 하겠읍니까? WHAT TYPE OF SHOT ARE YOU MAKING? S
      어디를 겨누겠읍니까? WHAT PART OF THE COURT ARE YOU AIMING FOR? 3
                                YOUR RETURN IS GOOD!
                                COMPUTER'S RETURN IS GOOD!

                    WHAT IS YOUR POSITION?? 1
                    WHAT TYPE OF SHOT ARE YOU MAKING? S
                    WHAT PART OF THE COURT ARE YOU AIMING FOR? 2
              리턴 성공       YOUR RETURN IS GOOD!
            컴퓨터도 성공      COMPUTER'S RETURN IS GOOD!

                    WHAT IS YOUR POSITION?? 2
     NICE TRY-YOU WERE UNABLE TO REACH THAT SHOT-COURT # 3
                                      실패
               SCORE     15 - 30

SERVE!   TYPE? S
     SERVE IS BAD
     SERVE AGAIN!!    TYPE? S
      SERVE IS GOOD... CAN'T RETURN IT!!

          SCORE     DUCE


SERVE!   TYPE? S
      SERVE IS GOOD... CAN'T RETURN IT!!

          SCORE     ADD IN


.SERVE!   TYPE? S
      SERVE IS BAD
      SERVE AGAIN!!    TYPE? S
      SERVE IS BAD... DOUBLE FAULT!

          SCORE     DUCE


SERVE!   TYPE? S
     SERVE IS BAD
     SERVE AGAIN!!    TYPE? S
     SERVE IS BAD... DOUBLE FAULT!

          SCORE     ADD OUT


SERVE!   TYPE? S
     SERVE HAS BEEN RETURNED...

                 WHAT IS YOUR POSITION?? 1
                 WHAT TYPE OF SHOT ARE YOU MAKING? L
                 WHAT PART OF THE COURT ARE YOU AIMING FOR? 4
                          YOUR RETURN IS GOOD!
NICE SHOT- THE COMPUTER COULDN'T REACH IT

          SCORE     DUCE


SERVE!   TYPE? S
     SERVE IS BAD
     SERVE AGAIN!!    TYPE? S
     SERVE IS BAD... DOUBLE FAULT!

          SCORE     ADD OUT


SERVE!   TYPE? S
     SERVE IS GOOD... ACE!!

          SCORE     DUCE


SERVE!   TYPE? S
     SERVE HAS BEEN RETURNED...

                 WHAT IS YOUR POSITION?? 1
                 WHAT TYPE OF SHOT ARE YOU MAKING? S
                 WHAT PART OF THE COURT ARE YOU AIMING FOR? 3
                          YOUR RETURN IS GOOD!
NICE SHOT- THE COMPUTER COULDN'T REACH IT

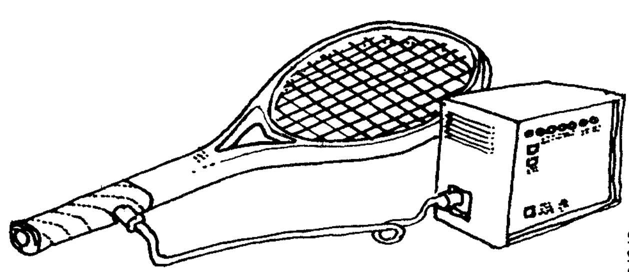
          SCORE     ADD IN


SERVE!   TYPE? S
     SERVE IS GOOD... CAN'T RETURN IT!!

          SCORE     GAME
--------------- GAME OVER -----------------   게임 끝
          SCORE-GAMES        YOU...ME
                              1     0


SERVE!   TYPE? S
     LET SERVE...TAKE 2
SERVE!   TYPE? S
     SERVE IS GOOD... CAN'T RETURN IT!!

          SCORE     15 - LOVE
```



```
1 PRINT CHR$(26); TAB( 30)"TENNIS MATCH":PRINT
2 PRINT TAB( 15)"CREATIVE COMPUTING, MORRISTOWN, NEW JERSEY"
10 PRINT:PRINT
21 PRINT TAB( 3);"THERE ARE SEVERAL OPTIONS AVAILABLE TO YOU AS TO POSITION,"
22 PRINT "PLACEMENT OF SHOT, AND SPEED (TYPE) OF SHOT.  THE KEY THAT "
23 PRINT "YOU WILL USE IS...":PRINT
24 PRINT TAB( 5)"POSITION (PLACEMENT, TOO): L.BACKCOURT (1); R.BACK-"
25 PRINT TAB( 5);"COURT (2); L. FORECOURT (3); R. FORECOURT (4).":PRINT
26 PRINT TAB( 5)"SPEED (TYPE) OF SHOT: FAST-SLAM (S); SLOW-LOB (L).":PRINT
27 PRINT TAB( 3)"BACKHANDS AND FOREHANDS WILL MERELY BE ASSUMED AS YOU "
28 PRINT "SHOOT FROM A CERTAIN SECTION OF THE COURT."
29 PRINT TAB( 3) "ON SERVES, YOU CANNOT HAVE PLACEMENT OPTIONS, BUT YOU"
30 PRINT "WILL BE ABLE TO ALTER THE SPEED OF IT.  BY THE WAY, YOU"
31 PRINT "WILL BE ALLOWED TO SERVE FIRST IN ALL GAMES.":PRINT
32 PRINT TAB( 10);"ARE YOU READY?... HERE WE GO!!!"
35 Y=0
36 Z=0
38 PRINT
39 PRINT
40 PRINT "     SERVE!   TYPE";
41 INPUT A$: IF A$<>"L" AND A$<>"S" THEN PRINT "'L' OR 'S'.": GOTO 40
42 A=100*RND (1)
43 IF A$="L" THEN 52
44 C=6
45 D=51
46 IF A<C THEN 50
47 IF A<D THEN 70
48 PRINT TAB( 10);"SERVE IS BAD."
49 GOTO 55
50 PRINT TAB( 10);"LET SERVE...TAKE 2."
51 GOTO 40
52 C=4
53 D=66
54 GOTO 46
55 PRINT TAB( 10);"SERVE AGAIN!!    TYPE";
56 INPUT B$: IF B$<>"L" AND B$<>"S" THEN PRINT "'L' OR 'S'.": GOTO 55
57 E=100*RND(1)
58 IF B$="L" THEN 67
59 G=5
60 H=41
61 IF E<G THEN 65
62 IF E<H THEN 70
63 PRINT TAB( 10);"SERVE IS BAD... DOUBLE FAULT!"
64 GOTO 130
65 PRINT TAB( 10);"LET SERVE... TAKE 1."
66 GOTO 55
67 G=3
68 H=76
69 GOTO 61
70 I=100 * RND(1)
71 IF I>6 THEN 74
72 PRINT TAB( 10);"SERVE IS GOOD... ACE!!"
73 GOTO 128
74 K=100*RND (1)
75 IF A$="L" THEN 81
76 IF B$="L" THEN 81
77 N=61
78 IF K<N THEN 85
79 PRINT TAB( 10); " SERVE IS GOOD... CAN'T RETURN IT!!"
80 GOTO 128
81 N=76
82 GOTO 78
85 PRINT TAB( 10);"SERVE HAS BEEN RETURNED..."
86 PRINT
87 O=INT (4*RND(1))+1
88 PRINT TAB( 20);"WHAT IS YOUR POSITION";
89 INPUT Q
90 IF O+Q=5 THEN 124
91 PRINT TAB( 20);"WHAT TYPE OF SHOT ARE YOU MAKING";
92 INPUT C$
93 PRINT TAB( 20);"WHAT PART OF THE COURT ARE YOU AIMING FOR";
94 INPUT R
95 S=100*RND(1)
96 IF C$="L" THEN 99
97 IF S<81 THEN 107
98 GOTO 100
99 IF S<91 THEN 107
100 U=4*RND(1)
101 PRINT TAB( 30);"YOUR RETURN IS BAD..."
102 IF U<2 THEN 105
103 PRINT TAB( 33);"HIT OUT-OF-BOUNDS."
104 GOTO 130
105 PRINT TAB( 33);"HIT INTO NET."
106 GOTO 130
107 PRINT TAB( 30);"YOUR RETURN IS GOOD!"
108 A1=INT(4*RND(1))
109 IF R+A1=5 THEN 127
110 W=100*RND(1)
111 IF C$="L" THEN 112
112 IF W<84 THEN 122
113 GOTO 115
114 IF W<84 THEN 122
115 C1=4*RND(1)
116 PRINT TAB( 30);"COMPUTER'S RETURN IS BAD."
117 IF B<2 THEN 120
118 PRINT TAB( 33);"HIT OUT-OF-BOUNDS."
119 GOTO 128
120 PRINT TAB( 33);"HIT INTO NET."
121 GOTO 128
122 PRINT TAB( 30);"COMPUTER'S RETURN IS GOOD!"
123 GOTO 86
124 PRINT "    NICE TRY - YOU WERE UNABLE TO REACH THAT SHOT - COURT #"O;
    CHR$(8);"."
125 GOTO 130
127 PRINT "    NICE SHOT- THE COMPUTER COULDN'T REACH IT."
128 Y=Y+1
129 GOTO 131
130 Z=Z+1
131 PRINT:GOSUB 200
132 PRINT TAB( 15);"SCORE:    "S$
134 IF Y>=4 AND Y>Z+1 THEN 137
135 IF Z>=4 AND Z>Y+1 THEN 139
136 GOTO 38
137 Y1=Y1+1
138 GOTO 140
139 Z1=Z1+1
140 PRINT:PRINT"--------------- GAME OVER ---------------":PRINT
141 PRINT TAB( 15);"SCORE-GAMES:     YOU...ME"
142  PRINT TAB( 32);Y1;"   ";Z1
143 IF Y1>=6 AND Y1>Z1+1 THEN 146
144 IF Z1>=6 AND Z1>Y1+1 THEN 149
145 GOTO 35
146 PRINT
147 PRINT "***** CONGRATULATIONS...YOU WON *****"
148 GOTO 151
149 PRINT
150 PRINT "***** AS PREDICTED, THE COMPUTER IS AGAIN TRIUMPHANT! *****"
151 PRINT
152 PRINT"   I'D LIKE TO PLAY YOU AGAIN SOMETIME, BUT RIGHT NOW, I"
153 PRINT "HAVE TO REST.........BYE!!!"
154 PRINT
155 END
200 IF Y>=2 AND Z>=2 THEN 300
210 IF Y=4 OR Z=4 THEN S$="GAME": GOTO 400
220 IF Y=0 THEN Y$="LOVE - "
230 IF Y=1 THEN Y$="15 - "
240 IF Y=2 THEN Y$="30 - "
245 IF Y=3 THEN Y$="40 - "
250 IF Z=0 THEN Z$="LOVE"
255 IF Z=1 THEN Z$="15"
260 IF Z=2 THEN Z$="30"
265 IF Z=3 THEN Z$="40"
270 S$=Y$+Z$:GOTO 400
300 IF Y=Z THEN S$="DEUCE":GOTO 400
310 IF Y=Z+1 THEN S$="ADD IN ": GOTO 400
320 IF Y=Z-1 THEN S$="ADD OUT": GOTO 400
330 IF Y=Z+2 OR Z=Y+2 THEN S$="GAME"
400 RETURN
500 END
```

Twonky (퇸키 게임)

컴퓨터가 15×15의 게임 판(game field)을 랜덤으로 세트한다. 게임 판에는 square의 목적지, 30의 벽으로 둘러싸인 square, 22의 재배치 square, 그리고 하나의 특별한 미로와 퇸키(twonky)가 있다.

한 회에 하나의 square를 전후 좌우로 움직이면서 퇸키가 당신을 잡기 전에 목적지에 들어가는 것이다. 그러나, 도중에 여러 가지 장애물에 방해를 받는다.

RELOCATION(재배치) SQUARE를 움직이면, 미로 안의 다른 장소로 마구잡이로 전송된다.

WALLS : 이 square 안으로 들어갈 수는 없다. 거기에 충돌하면 한 회를 거르게 된다.

SUPER - MAZE - SQUARE : 기본적으로는 곧 없어진다. 여기에 부딪치면 완전히 새로운 미로가 만들어지기 때문이다.

TWONKY : 어떻게 해서든 퇸키는 당신 쪽으로 이동해 온다(퇸키는 어떠한 함정이나 벽도 통과할 수 없다). 2 또는 2 이하의 square로 당신에게 접근해 오면 당신은 진 것이다. 그러나 당신에게는 소멸 광선이 있다. 당신 차례가 오면 이 소멸 광선 총을 사용해도 된다. 만일 퇸키를 그것으로 쏘면 퇸키는 그대로 사라져 버리고, 또 한 번 당신을 추적하기 위해서 미로에 나타난다(이때 당신의 바로 뒤에 나타날 수도 있다).

당신과 퇸키가 움직일 때마다, 당신과 퇸키와의 거리, 또는 목적하는 square에서 당신까지의 거리가 출력된다. 만약 출력되지 않는 경우에는 장님 게임이 된다. 그 때에도 퇸키나 목적물의 위치를 대략 안다.

퇸키를 쏘려고 할 때, 퇸키와 당신과의 거리가 정수가 아니면 쏠 수 없다. 예를 들어 퇸키가 당신으로부터 2.23606 유니트 떨어져 있다면, 직접 쏠 수 없는 것이다. 4유니트 떨어져 있으면 쏠 수 있다. 단, 5, 10, 13, 17의 거리일 때에는 예외이다. 피타고라스의 정리를 복습하면 그 이유를 알 수 있을 것이다. 그러므로 5, 10, 13, 17이면 당신은 쏘든 쏘지 않든 상관없다. 이 규칙은 목적물의 방향에 대해서도 마찬가지로 유효하다. 움직이는 앞뒤의 거리를 보면 퇸키와 당신의 위치를 알 수 있다. 예를 들면, 앞의 오른쪽이라든지 뒤의 왼쪽이라는 식으로.

퇸키로부터의 거리를 제곱하는 것이다.

$2.23606^2 = 4.99996$ 약 5, 그리고 두 개의 정수를 얻는다. 즉 $2^2+1^2=5$. 만약 퇸키가 앞의 오른쪽에 있다면 2 up, 1 over 또는 1 up 2 over가 되는 것이다.

이 게임의 특이한 점은 두 가지 방법으로 플레이할 수 있다는 것이다. 한 가지는 짐작으로 움직여서 즐기는 방법, 또 한 가지는 정확한 위치를 포착, 계산하여 이동하면서 즐기는 방법이다.

Twonky was written by Mark Capella and first appeared in *Creative Computing*, May/Jun 1977.

```
RUN
                      TWONKY
                CREATIVE COMPUTING
               MORRISTOWN  NEW JERSEY


DO YOU WANT INSTRUCTIONS (Y/N)? Y   설명이 필요합니까?


THIS IS THE GAME OF TWONKY.
YOU HAVE LANDED ON THE PLANET OF TWINKY AND
ITS KING (KONG:THEIR KING IS KING KONG) HAS
CAPTURED YOU. HE HAS PUT YOU IN A MAZE THAT IS
15 * 15 UNITS LONG. YOU ARE IN THE DARK AND CANNOT
SEE... YOU MUST GET TO THE OBJECTIVE SQUARE AND
BE SET FREE.

     HAZARDS INCLUDE:
SQUARES THAT YOU CANNOT GO INTO (30).
SQUARES THAT RANDOMLY THROW YOU AROUND THE MAZE (22).
SQUARE THAT SETS UP A NEW MAZE AND ALL THAT'S IN IT (1)
MONSTER CALLED TWONKY THAT CHASES YOU AND WILL
    ABSORB YOU IF THE DISTANCE IT IS FROM YOU FALLS
    BELOW 2 UNITS.
    TWONKY IS ALSO IMMUNE TO ALL TRAPS INCLUDING
     WALLS.

     YOU CAN:
MOVE ONE SQUARE AT A TIME TO FIND THE OBJECTIVE
     OR ESCAPE FROM THE TWONKY.
SHOOT AT THE TWONKY ONE DIRECTION AT A TIME.
  IF THE TWONKY IS HIT, HE WILL BE REPLACED IN THE
       MAZE RANDOMLY.

IF THE TWONKY ABSORBS YOU...YOU LOSE.
 IF YOU LAND ON THE OBJECTIVE SQUARE YOU WIN.

GOOD LUCK!   행운을 빕니다.

-------------------------------------


THE TWONKY IS  8.06226  UNITS AWAY.  퇸키는 8. 06226 유니트
THE OBJECTIVE IS  9.48683  UNITS AWAY.     떨어져 있습니다.
                 목적지는 9. 48683 유니트 떨어져 있습니다.
MOVE OR SHOOT (M/S)? M    움직이겠읍니까, 쏘겠읍니까?
WHICH WAY (F/B/R/L)? F    어느 길로?
MOVE ALLOWED.

THE TWONKY IS  7.2111  UNITS AWAY.
THE OBJECTIVE IS  8.54401  UNITS AWAY.

TWONKY MOVES....   퇸키가 움직입니다.

THE TWONKY IS  6.70821  UNITS AWAY.
THE OBJECTIVE IS  8.54401  UNITS AWAY.


MOVE OR SHOOT (M/S)? M
WHICH WAY (F/B/R/L)? R
MOVE ALLOWED.

THE TWONKY IS  7.2111  UNITS AWAY.
THE OBJECTIVE IS  8.94428  UNITS AWAY.

TWONKY MOVES....

THE TWONKY IS  6.70821  UNITS AWAY.
THE OBJECTIVE IS  8.94428  UNITS AWAY.
```

```
MOVE OR SHOOT (M/S)? M
WHICH WAY (F/B/R/L)? L
MOVE ALLOWED.

THE TWONKY IS  6.32456  UNITS AWAY.
THE OBJECTIVE IS  8.54401  UNITS AWAY.

TWONKY MOVES....

THE TWONKY IS  6.08276  UNITS AWAY.
THE OBJECTIVE IS  8.54401  UNITS AWAY.


MOVE OR SHOOT (M/S)? M
WHICH WAY (F/B/R/L)? F
MOVE ALLOWED.

THE TWONKY IS  5.09902  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.

TWONKY MOVES....

THE TWONKY IS  5  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.


MOVE OR SHOOT (M/S)? S  움직이겠습니까, 쏘겠습니까?
WHICH WAY (F/B/R/L)? F
Z A P --Z A P --Z A P --Z A P --BLAST!!!!
YOU HIT WALL.  벽을 쏘았습니다.
SHOT MISSED.   실패.

THE TWONKY IS  5  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.

TWONKY MOVES....

THE TWONKY IS  4  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.


MOVE OR SHOOT (M/S)? S
WHICH WAY (F/B/R/L)? B
Z A P --Z A P --Z A P --Z A P --Z A P --Z A P --Z A P --FIZZLE...
SHOT LEFT MAZE.  왼쪽 미로를 쏘았습니다.
SHOT MISSED.     실패

THE TWONKY IS  4  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.

TWONKY MOVES....

THE TWONKY IS  3  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.


MOVE OR SHOOT (M/S)? S
WHICH WAY (F/B/R/L)? R
Z A P --Z A P --FIZZLE...
SHOT LEFT MAZE.
SHOT MISSED.

THE TWONKY IS  3  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.

TWONKY MOVES....

THE TWONKY IS  2  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.


MOVE OR SHOOT (M/S)? S
WHICH WAY (F/B/R/L)? L
Z A P --Z A P --Z A P --Z A P --BLAST!!!!
YOU HIT WALL.
SHOT MISSED.

THE TWONKY IS  2  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.

TWONKY MOVES....

THE TWONKY IS  1  UNITS AWAY.
THE OBJECTIVE IS  7.61577  UNITS AWAY.


> > > SCHLOORP !!! < < <
THE TWONKY JUST ABSORBED YOU !! YOU LOSE. 퉁키에게 잡혔습니다.
                                          당신이 졌습니다.

TRY AGAIN (Y/N)? N   다시 한 번 하겠습니까?
OK
```

```
10 PRINT TAB( 24);"TWONKY"
20 PRINT TAB( 18);"CREATIVE COMPUTING"
30 PRINT TAB( 16);"MORRISTOWN  NEW JERSEY"
40 PRINT:PRINT
140 GOSUB 2250
150 DIM A(15,15)
160 LET R9=0
170 GOSUB 1830
180 PRINT "-----------------------------------"
190 PRINT
200 GOSUB 1450
210 PRINT
220 PRINT "MOVE OR SHOOT (M/S)";
230 INPUT Q8$
240 IF LEFT$(Q8$,1)="M" THEN 270
250 IF LEFT$(Q8$,1)="S" THEN 950
260 GOTO 210
270 PRINT "WHICH WAY (F/B/R/L)";
280 INPUT Q$
290 IF LEFT$(Q$,1)="F" THEN 340
300 IF LEFT$(Q$,1)="B" THEN 370
310 IF LEFT$(Q$,1)="L" THEN 400
320 IF LEFT$(Q$,1)="R" THEN 430
330 GOTO 210
340 LET X5=X
350 LET Y5=Y-1
360 GOTO 460
370 LET X5=X
380 LET Y5=Y+1
390 GOTO 460
400 LET X5=X-1
410 LET Y5=Y
420 GOTO 460
430 LET X5=X+1
440 LET Y5=Y
450 GOTO 460
460 IF X5<1 THEN 510
470 IF X5>15 THEN 510
480 IF Y5<1 THEN 510
490 IF Y5>15 THEN 510
500 GOTO 540
510 PRINT "THAT MOVE TAKES YOU OUT OF THE MAZE."
520 PRINT "MOVE NOT ALLOWED."
530 GOTO 1430
540 ON (A(X5,Y5)+1) GOTO 550,620,630,660,760,800,920
550 REM *** EMPTY SPACE
560 LET A(X,Y)=0
570 LET A(X5,Y5)=1
580 LET X=X5
590 LET Y=Y5
600 PRINT "MOVE ALLOWED."
610 GOTO 1430
620 REM *** IMPOSSIBLE TO GET HERE
630 REM *** BLOCKED SPACE ROUTINE.
640 PRINT "THAT SPACE IS BLOCKED."
650 GOTO 1430
660 REM *** RELOCATION ROUTINE.
670 PRINT "YOU'VE BEEN   R E L O C A T E D !!!"
680 GOSUB 2710
690 IF A(Z,W)>2 THEN 540
700 IF A(Z,W) <> 0 THEN 680
710 LET A(Z,W)=1
720 LET A(X,Y)=0
730 LET X=Z
740 LET Y=W
750 GOTO 1430
760 REM *** CHANGE ALL, SUPER TRAP.
770 PRINT "   YOU HIT THE SUPER TRAP!! YOU GET A NEW MAZE."
780 GOSUB 1830
790 GOTO 1430
800 REM *** HE WON!
810 PRINT
820 PRINT "I DON'T BELIEVE IT BUT YOU WON THE GAME!"
830 PRINT "YOU GOT TO THE OBJECTIVE BEFORE"
840 PRINT "   THE TWONKY GOT YOU!!"
850 PRINT
860 PRINT
870 PRINT "TRY AGAIN (Y/N)";
880 INPUT Q$
890 IF LEFT$(Q$,1)="Y" THEN 160
900 IF LEFT$(Q$,1)="N" THEN 2750
910 GOTO 870
```

```
920 REM *** HE LANDED ON TWONKY!
930 PRINT "YOU STEPPED ON THE TWONKY!"
940 GOTO 1790
950 REM *** SHOOT ROUTINE
960 PRINT "WHICH WAY (F/B/R/L)";
970 INPUT Q$
980 IF LEFT$(Q$,1)="F" THEN 1030
990 IF LEFT$(Q$,1)="B" THEN 1060
1000 IF LEFT$(Q$,1)="R" THEN 1120
1010 IF LEFT$(Q$,1)="L" THEN 1090
1020 GOTO 210
1030 LET S1=0
1040 LET S2=-1
1050 GOTO 1140
1060 LET S1=0
1070 LET S2=1
1080 GOTO 1140
1090 LET S1=-1
1100 LET S2=0
1110 GOTO 1140
1120 LET S1=1
1130 LET S2=0
1140 LET R1=X
1150 LET R2=Y
1160 LET R1=R1+S1
1170 LET R2=R2+S2
1180 PRINT "Z A P --";
1190 IF R1 < 1 THEN 1240
1200 IF R1 > 15 THEN 1240
1210 IF R2 < 1 THEN 1240
1220 IF R2 > 15 THEN 1240
1230 GOTO 1280
1240 PRINT "FIZZLE..."
1250 PRINT "SHOT LEFT MAZE."
1260 PRINT "SHOT MISSED."
1270 GOTO 1430
1280 IF A(R1,R2) <>2 THEN 1330
1290 PRINT "BLAST!!!!"
1300 PRINT "YOU HIT WALL."
1310 PRINT "SHOT MISSED."
1320 GOTO 1430
1330 IF A(R1,R2) <> 6 THEN 1160
1340 PRINT "OUCH!!"
1350 PRINT "TWONKY RETREATES."
1360 LET A (R1,R2)=R9
1370 GOSUB 2710
1380 IF A(Z,W) <> 0 THEN 1370
1390 LET A(Z,W)=6
1410 LET X1=Z
1420 LET Y1=W
1430 GOSUB 1450
1440 GOTO 1570
1450 REM *** PRINT TWONKY AND OBJECTIVE DISTANCE
1455 PRINT
1460 PRINT "THE TWONKY IS";
1470 D=(SQR(ABS((X1-X)^2+(Y1-Y)^2)))
1490 PRINT D;
1500 PRINT "UNITS AWAY."
1510 PRINT "THE OBJECTIVE IS";
1520 D1=(SQR(ABS(X2-X)^2+(Y2-Y)^2))
1530 PRINT D1;
1540 PRINT "UNITS AWAY."
1550 PRINT
1560 RETURN
1570 REM *** TWONKYS LOGIC
1580 IF D<2 THEN 1790
1590 LET Z2=Y1
1600 LET Z1=X1
1610 IF X < X1 THEN 1680
1620 IF X > X1 THEN 1700
1630 IF Y < Y1 THEN 1660
1640 LET Z2=Y1+1
1650 GOTO 1710
1660 LET Z2=Y1-1
1670 GOTO 1710
1680 LET Z1=X1-1
1690 GOTO 1710
1700 LET Z1=X1+1
1710 LET A(X1,Y1)=R9
1720 LET R9=A(Z1,Z2)
1730 LET A(Z1,Z2)=6
1740 LET X1=Z1
1750 LET Y1=Z2
1760 PRINT "TWONKY MOVES...."
1770 GOSUB 1450
1780 IF D >= 2 THEN 210
1790 PRINT
1800 PRINT "> > > SCHLOORP !!! < < <"
1810 PRINT "THE TWONKY JUST ABSORBED YOU!! YOU LOSE."
1820 GOTO 850
1830 REM *** SET UP NEW MAZE ROUTINE
1840 REM *** 1=PLAYER, 2=BLOCKED SPACES
1850 REM *** 3=RELOCATIONS, 4=SUPER TRAP
1860 REM *** 5=OBJECTIVE, 6=TWONKY
1870 REM *** 0=EMPTY SPACES
1880 REM *** CLEAR MAZE
1883 FOR B0=1 TO 15
1885 FOR B1=1 TO 15
1890 LET A(B0,B1)=0
1893 NEXT B1
1895 NEXT B0
1910 FOR I=1 TO 30
1920 GOSUB 2710
1930 IF A(Z,W) <> 0 THEN 1920
1940 LET A(Z,W)=2
1950 NEXT I
1960 REM *** PLACE RELOCATIONS
1970 FOR I=1 TO 22
1980 GOSUB 2710
1990 IF A(Z,W) <> 0 THEN 1980
2000 LET A(Z,W)=3
2010 NEXT I
2020 REM *** PLACE THE SPECIAL TRAP
2030 GOSUB 2710
2040 IF A(Z,W) <> 0 THEN 2030
2050 LET A(Z,W)=4
2060 REM *** PLACE THE PLAYER
2070 GOSUB 2710
2080 IF A(Z,W) <> 0 THEN 2070
2090 LET A(Z,W)=1
2100 LET X=Z
2110 LET Y=W
2120 REM *** PLACE THE OBJECTIVE
2130 GOSUB 2710
2140 IF A(Z,W) <> 0 THEN 2130
2150 LET A(Z,W)=5
2160 LET X2=Z
2170 LET Y2=W
2180 REM *** PLACE THE TWONKY
2190 GOSUB 2710
2200 IF A(Z,W) <> 0 THEN 2190
2210 LET A(Z,W)=6 .
2220 LET X1=Z
2230 LET Y1=W
2240 RETURN
2250 REM
2310 PRINT "DO YOU WANT INSTRUCTIONS (Y/N)";
2320 INPUT Q$
2330 IF LEFT$(Q$,1)="N" THEN 2700
2340 IF LEFT$(Q$,1) <> "Y" THEN 2310
2350 PRINT CHR$(26)
2380 PRINT "THIS IS THE GAME OF TWONKY."
2385 PRINT
2410 PRINT "  YOU HAVE LANDED ON THE PLANET OF TWINKY AND"
2420 PRINT "ITS KING (KONG: THEIR KING IS KING KONG) HAS "
2430 PRINT "CAPTURED YOU. HE HAS PUT YOU IN A MAZE THAT IS"
2440 PRINT "15 * 15 UNITS LONG. YOU ARE IN THE DARK AND CANNOT"
2450 PRINT "SEE... YOU MUST GET TO THE OBJECTIVE SQUARE AND"
2460 PRINT "BE SET FREE."
2470 PRINT
2480 PRINT "  HAZARDS INCLUDE:":PRINT
2490 PRINT "SQUARES THAT YOU CANNOT GO INTO (30)."
2500 PRINT "SQUARES THAT RANDOMLY THROW YOU AROUND THE MAZE (22)."
2510 PRINT "SQUARE THAT SETS UP A NEW MAZE AND ALL THAT'S IN IT (1)"
2520 PRINT "MONSTER CALLED TWONKY THAT CHASES YOU AND WILL"
2530 PRINT "  ABSORB YOU IF THE DISTANCE IT IS FROM YOU FALLS"
2540 PRINT "  BELOW 2 UNITS."
2550 PRINT:PRINT "  TWONKY IS ALSO IMMUNE TO ALL TRAPS INCLUDING WALLS."
2570 PRINT:PRINT
2580 LINE INPUT "ENTER 'RETURN' TO CONTINUE. ";XX$:PRINT CHR$(26)
2590 PRINT "  YOU CAN:":PRINT
2600 PRINT "MOVE ONE SQUARE AT A TIME TO FIND THE OBJECTIVE"
2610 PRINT "  OR ESCAPE FROM THE TWONKY."
2615 PRINT
2620 PRINT "SHOOT AT THE TWONKY ONE DIRECTION AT A TIME."
2630 PRINT "  IF THE TWONKY IS HIT, HE WILL BE REPLACED IN THE"
2640 PRINT "  MAZE RANDOMLY."
2645 PRINT
2650 PRINT "IF THE TWONKY ABSORBS YOU...YOU LOSE."
2655 PRINT
2660 PRINT "IF YOU LAND ON THE OBJECTIVE SQUARE YOU WIN."
2670 PRINT
2680 PRINT "GOOD LUCK!"
2690 PRINT
2700 RETURN
2710 REM *** SUBROUTINE TO GET 2 RANDOM NUMBERS
2720 LET Z=INT(RND(1)*15+1)
2730 LET W=INT(RND(1)*15+1)
2740 RETURN
2750 END
```

UFO (유 에프 오)

누가 우주의 승자가 될 것인가? 우주의 승자를 걸고 컴퓨터와 필사적으로 싸우는 전략 게임. 이 전쟁은, 지구도, 다른 혹성에서 온 침략자도 우주 전쟁으로 파멸된 후에 행해진다. 양쪽 혹성은, 힘, 사회 구조, 과학적 지식면에서 기본적으로 동등하다. 이들은 운이 다한 것을 알고, 우주 공간에 구명 보트를 띄운다. 이 구명 보트는 같은 장비와 힘을 가지고 있다. 그러나 우주인은 상당히 뛰어난 사수로, 두 번의 shot에 한 번을 명중시킬 수 있다(880행~890행에서 명중률을 세트). 적선의 판단은 컴퓨터가 한다. 적은 당신이 습격해 온다고 느끼면 퇴각하고, 당신이 뛰고 있을 때, 또는 적의 연료가 떨어졌을 때는 접근해 온다(작은 병기일수록 연료가 적게 든다). 적의 에너지가 어느 값 이하가 되었을 때에는 옵션(option) 6(움직이지 않고 연료를 넣는다)을 사용한다. 다시 말하면, 적이 움직일 수 없을 때에 당신은 전략을 짤 수 있는 것이다. 결국, 당신에게는 생각할 수 있다는 잇점이 있고, 침략자에게는(컴퓨터가 조종) 확실한 명중률이라는 잇점이 있다.

우주 전쟁에 의해 모든 문명이 파괴되고, 생존자는 겨우 150명. 그런 상황에서 당신이 사령관이 되었다고 상정하여 게임을 시작한다. 적은 결코 모습을 보이지 않는데, 그럼에도 불구하고 당신은 그 보이지 않는 적을 퇴치해야 하는 것이다. 그렇지 않으면 당신이 죽는다. 당신의 병기 시스템에 대한 설명이 있은 다음 게임이 시작된다. 당신이 지휘하는 우주선은 위법적으로 이동하지 못하도록 컨트롤(control)되어 있다. 예를 들면, 당신이 상대방의 배를 향해 사격하면, 명중했다는 전보가 돌아올 때까지 기다리도록 되어 있다. 그리고, 양쪽 우주선의 power 소비를 보고한다. 당신의 power가 음수가 되지 않는 한 게임은 계속되는데, 일단 0 이하가 되면, 당신 쪽의 승무원은 죽는다(에너지 레벨은 공격을 억제하기 위해서 남겨진 에너지의 양을 나타낸다. 격퇴할 수 있는 power보다 큰 power로 우주선이 공격 받으면, 당하는 것은 당연하다. 표시 power가 같은 양이면, 우주선은 공격으로 소비한 것과 같은 양의 에너지를 가지고 있는 것이 된다).

적을 놀라게 하여 쫓아내지 않고 적에 충분히 접근(5000~11000)할 수 있고, Heavy gun을 사용할 수 있으면 게임을 오래 계속할 수 있다. 이 게임은, 이론적으로 영구히 계속할 수 있다.

Written by Raymond J. Kernay, UFO first appeared in *Creative Computing* in Jul/Aug 1977. A modified version called Star Wars appeared in Sep/Oct 1978.

```
RUN
                         UFO
                  CREATIVE COMPUTING
                  MORRISTOWN NEW JERSEY


 DO YOU WANT INSTRUCTIONS? YES 설명이 필요합니까?
YOU ARE ABOUT TO RECEIVE HIGH SECURITY INFORMATION
PLEASE EAT THE COMPUTER READ OUT AFTER READING



THIS IS THE YEAR 2000...CIVILIZATION AS YOU KNOW IT HAS
BEEN DESTROYED...NATIONS HAVE BEEN REDUCED TO RUBBLE
IN A MASSIVE SPACE WAR
YOU ARE ONBOARD A SPACE SHIP WHOSE SOLE PURPOSE
IS TO SAFE GUARD THE 150 PEOPLE ON YOUR SHIP...THE
SOLE SURVIVORS...YOUR MISSION: FIND A PLANET SUITABLE
FOR YOUR COLONISTS.....PROBLEM: THE ENEMY OF EARTH STILL
EXISTS. STRANGE CREATURES NEVER SEEN BY MAN

BY THE TIME YOU READ THIS EARTH WILL NO LONGER EXIST.......
HERE IS YOUR VITAL DATUM:
          YOU ARE EQUIPT WITH 10000 UNITS OF ENERGY
          WHEN YOU RUN OUT THE ALIENS WILL DESTROY YOU



     무기의 종류      용량  WEAPONRY 무기
TYPE DESCRIPTION CAPACITY FUEL DRAIN 에너지 소모
  1  HEAVY GUNS  0-11000   10 UNITS   탄두
  2  WARHEADS 10000-100000 100 UNITS  대포
  3  LASER    10000-20000   1000 UNITS 레이저


                        OPTIONS    동작
  4  APPROACH    ---------100 UNITS 접근
  5  RETREAT     ---------100 UNITS 후퇴
  6  BY TYPING 6 YOU CAN PASS AND GAIN 100 UNITS 움직이지 않고
     (LABORERS WORK TO PRODUCE POWER)            연료 보급

                        ENEMY

THE ENEMY HAS THE SAME CAPABILITIES THAT YOU HAVE
EACH TIME A SHIP IS HIT ITS ENERGY DRAIN IS EQUAL TO
THE AMOUNT OF ENERGY SPENT*10 (EXCEPT LASER WHICH EQUALS
                              THE AMOUNT SPENT*3 UNITS)
BOTH SHIPS ARE ON THE SAME MISSION, DESTINATION AND BOTH
ARE ON EQUAL TERMS
UNFORTUNATLY YOU MUST KILL EACH OTHER TO WIN
YOUR MAXIMUM SPEED IS A JUMP OF 50000 UNITS, HOWEVER
SPEEDS VARY BETWEEN 10000-50000
WARHEADS TRAVEL AT 35000 FEET PER SEC...SHELLS 1000 PER SECOND
THIS MESSAGE WAS RECORDED EARTH IS DEAD...GOOD LUCK



THIS IS COMPUTER CONTROL WHAT IS YOUR NAME? BRUCE B. S. 당신의
VERY GOOD BRUCE B. S.                                   이름은?
LEAVING PLANETARY ORBIT BRUCE B. S. SHIP APPROACHING AT
 180025 MILES   180025 마일 떨어져 있습니다.
WHAT ARE YOUR ORDERS BRUCE B. S.? 2  명령은?
LETS NOT CRACK UNDER PRESSURE
WHAT ARE YOUR ORDERS BRUCE B. S.? 3
LASER FIRED    레이저 발사
DIRECT HIT.....ENEMY SHIP'S POWER DOWN 명중…… 적은 힘이 떨어졌읍니다.
ENEMY SHIP REPORT      적이 멀어졌읍니다.
RANGE= 180025   POWER= 7000
ENEMY FIRES LASER   적이 레이저를 발사
DIRECT HIT..... POWER DOWN  명중.



          STATUS OF SHIP
RANGE= 180025 POWER SUPPLY= 6000
WHAT ARE YOUR ORDERS BRUCE B. S.? 3
LASER FIRED
DIRECT HIT.....ENEMY SHIP'S POWER DOWN
ENEMY SHIP REPORT
RANGE= 180025   POWER= 3000
ENEMY FIRES LASER
DIRECT HIT..... POWER DOWN
```

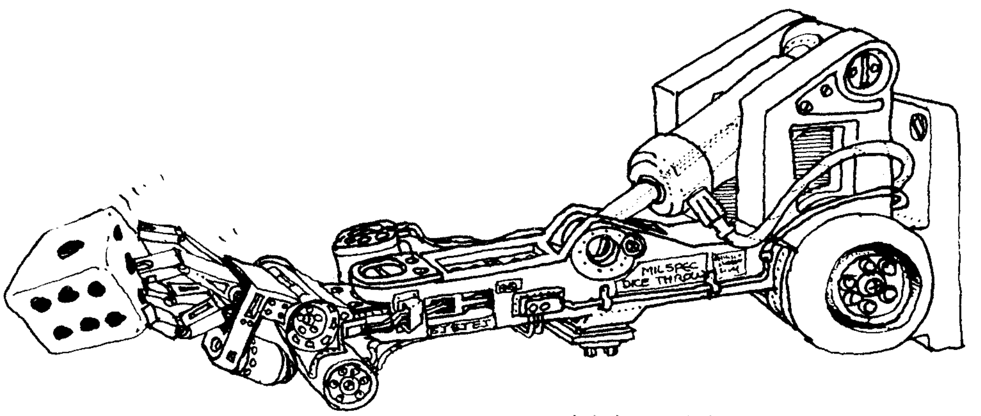
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            STATUS OF SHIP
RANGE= 180025 POWER SUPPLY= 2000
WHAT ARE YOUR ORDERS BRUCE B. S.? 3
LASER FIRED
MISSED TOO BAD  큰 실패!
ENEMY SHIP REPORT
RANGE= 180025   POWER= 2000
ENEMY FIRES LASER
DIRECT HIT..... POWER DOWN


            STATUS OF SHIP
RANGE= 180025 POWER SUPPLY=-2000
ENEMY IS VICTOR LIFE SUPPORT FADING CREW DYING
                        적이 이겼읍니다.


PLAY AGAIN? NO     다시 한 번 하겠읍니까?
OK
```

```
10 PRINT TAB( 26);"UFO"
20 PRINT TAB( 19);"CREATIVE COMPUTING"
30 PRINT TAB( 10);"MORRISTOWN NEW JERSEY"
40 PRINT:PRINT
50 F6$="###,###"
55 F4$="##,###"
60 DIM P(1)
80 REM UFO
90 PRINT:PRINT "DO YOU WANT INSTRUCTIONS";
100 INPUT A$
102 IF LEFT$(A$,1)="N" THEN 480
104 IF LEFT$(A$,1)="Y" THEN 110
106 GOTO 90
110 PRINT CHR$(26);"YOU ARE ABOUT TO RECEIVE HIGH SECURITY INFORMATION."
120 PRINT "PLEASE EAT THE COMPUTER READ OUT AFTER READING."
130 PRINT:PRINT
140 PRINT "THIS IS THE YEAR 2000...CIVILIZATION AS YOU KNOW IT HAS"
150 PRINT "BEEN DESTROYED...NATIONS HAVE BEEN REDUCED TO RUBBLE"
160 PRINT "IN A MASSIVE SPACE WAR.":PRINT
170 PRINT "YOU ARE ONBOARD A SPACE SHIP WHOSE SOLE PURPOSE"
180 PRINT "IS TO SAFEGUARD THE 150 PEOPLE ON YOUR SHIP...THE"
190 PRINT "SOLE SURVIVORS...YOUR MISSION: FIND A PLANET SUITABLE"
200 PRINT "FOR YOUR COLONISTS.....PROBLEM: THE ENEMY OF EARTH STILL"
210 PRINT "EXISTS. STRANGE CREATURES NEVER SEEN BY 'AN.":PRINT
220 PRINT "BY THE TIME YOU READ THIS EARTH WILL NO LONGER EXIST......."
225 PRINT
230 PRINT "HERE IS YOUR VITAL DATUM:"
240 PRINT TAB( 10);"YOU ARE EQUIPPED WITH 10,000 UNITS OF ENERGY."
250 PRINT TAB( 10);"WHEN YOU RUN OUT, THE ALIENS WILL DESTROY YOU."
255 PRINT:PRINT:GOSUB 10000
260 PRINT TAB( 25);"WEAPONRY":PRINT TAB( 25);"========":PRINT
270 PRINT "TYPE";TAB( 5);"DESCRIPTION";TAB( 25);"CAPACITY";TAB( 40);
275 PRINT "FUEL DRAIN"
277 PRINT "----";TAB( 5);"-----------";TAB( 25);"--------";TAB( 40);"----------"
280 PRINT "  1";TAB( 5);"HEAVY GUNS";TAB( 24);"0 - 11,000";TAB( 40);
285 PRINT "10 UNITS"
290 PRINT "  2";TAB( 5);"WARHEADS";TAB( 21);"10,000 - 100,000";TAB( 40);
295 PRINT "100 UNITS"
300 PRINT "  3";TAB( 5);"LASER";TAB( 22);"10,000 - 20,000";TAB( 40);
305 PRINT "1000 UNITS"
310 PRINT:PRINT TAB( 25);"OPTIONS":PRINT TAB( 25);"======="
320 PRINT "  4";TAB( 5);"APPROACH";TAB( 25);"-------";TAB( 40);
325 PRINT "100 UNITS"
327 PRINT "  5";TAB( 5);"RETREAT";TAB( 25);"-------";TAB( 40);
328 PRINT "100 UNITS"
330 PRINT "  6";TAB( 5);"BY TYPING 6 YOU CAN PASS AND GAIN 100 UNITS"
350 PRINT TAB( 5);"(LABORERS WORK TO PRODUCE POWER)"
355 PRINT:PRINT:GOSUB 10000
360 PRINT TAB( 25);"ENEMY":PRINT TAB( 25);"====="
370 PRINT:PRINT "THE ENEMY HAS THE SAME CAPABILITIES THAT YOU HAVE."
375 PRINT
380 PRINT "EACH TIME A SHIP IS HIT, ITS ENERGY DRAIN IS EQUAL TO"
390 PRINT "THE AMOUNT OF ENERGY SPENT*10 (EXCEPT LASER WHICH EQUALS"
400 PRINT "THE AMOUNT SPENT*3 UNITS).":PRINT
410 PRINT "BOTH SHIPS ARE ON THE SAME MISSION AND DESTINATION AND BOTH"
420 PRINT "ARE ON EQUAL TERMS.":PRINT
430 PRINT "UNFORTUNATLY, YOU MUST KILL EACH OTHER TO WIN.":PRINT
440 PRINT "YOUR MAXIMUM SPEED IS A JUMP OF 50,000 UNITS, HOWEVER,"
450 PRINT "SPEEDS VARY BETWEEN 10,000 - 50,000."
460 PRINT "WARHEADS TRAVEL AT 35,000 FEET PER SEC...SHELLS 1,000 FEET";
465 PRINT " PER SECOND.":PRINT
470 PRINT "THIS MESSAGE WAS RECORDED. EARTH IS DEAD... GOOD LUCK..."
480 PRINT:PRINT:PRINT "THIS IS COMPUTER CONTROL. WHAT IS YOUR NAME";
490 INPUT A$:PRINT "VERY GOOD, ";A$;".":PRINT
500 P=10000:P(1)=10000:A=RND(1)*200000!
510 PRINT "LEAVING PLANETARY ORBIT, ";A$;". ";B$;C$;" SHIP APPROACHING AT";
512 PRINT
515 PRINT USING F6$;A;:PRINT " MILES."
520 PRINT "WHAT ARE YOUR ORDERS, ";A$;B$;C$;:INPUT C
530 O=INT(RND(1)*2)+1
540 ON C GOTO 570,650,710,750,780,820
560 PRINT "LETS NOT CRACK UNDER PRESSURE.":GOTO 520
570 IF A>11005 THEN 560
580 P=P-10
590 PRINT "GUNS FIRED:"
595 FOR X=1 TO A*2 STEP 1000
600 NEXT X
610 IF O=1 THEN 630
620 PRINT "MISSED....... TOO BAD!":GOTO 830
630 PRINT "DIRECT HIT.......ENEMY SHIP'S POWER DOWN."
640 P(1)=P(1)-100:GOTO 830
650 IF A > 100000! THEN 560
655 IF A < 10000 THEN 560
660 P=P-100:PRINT "WARHEAD LAUNCHED":FOR X=1 TO A*2 STEP 35000!
670 NEXT X
680 IF O=1 THEN 690:PRINT "MISSED.........TOO BAD!":GOTO 830
690 PRINT "DIRECT HIT.....ENEMY SHIP'S POWER DOWN."
700 P(1)=P(1)-1000
705 GOTO 830
710 IF A < 100000! THEN 560
714 P=P-1000
716 PRINT "LASER FIRED:"
720 IF O=1 THEN 730
725 PRINT "MISSED........TOO BAD!":GOTO 830
730 PRINT "DIRECT HIT.....ENEMY SHIP'S POWER DOWN."
740 P(1)=P(1)-3000:GOTO 830
750 B=RND(1)*40000!+10000:A=A-B:P=P-100:IF A<1 THEN 770
760 GOTO 830
770 PRINT "*** COLLISION ***":PRINT "BOTH SHIPS DESTROYED!":GOTO 1000
780 B=RND(1)*40000!+10000:A=A+B:P=P-100:IF A > 200050! THEN 800
790 GOTO 830
800 PRINT A$;", YOUR RANGE IS";:PRINT USING F6$;A;:
    PRINT ", BUT WE CANNOT RUN. RANGE IS NOW ";
805 PRINT "200,000."
810 A=200000!:GOTO 830
820 P=P+100
830 PRINT:PRINT TAB( 5);"ENEMY SHIP REPORT":PRINT TAB( 5);"-----------------":
    PRINT "RANGE = ";:PRINT USING F6$;A;:PRINT "  POWER = ";:
    PRINT USING F4$;P(1)
840 IF P(1) < 1 THEN 1110
850 IF P(1) < 500 THEN 1040
860 IF A < 5000 THEN 1070
870 R=INT(RND(1)*3)+1:O=INT(RND(1)*2+1)
880 ON R GOTO 970,920
885 IF R=2 THEN
890 IF A < 100000! THEN 870
892 P(1)=P(1)-1000
894 PRINT "ENEMY FIRES LASER...."
900 IF O=1 THEN 910: PRINT "MISSED...WHEW!!":GOTO 1010
910 PRINT "DIRECT HIT..... POWER DOWN": P=P-3000:GOTO 1010
920 IF A > 100000! THEN 870: IF A < 10000 THEN 870
930 P(1)=P(1)-100: PRINT "ENEMY WARHEAD FIRED...."
940 FOR D=1 TO A STEP 35000!: NEXT D
950 IF O=1 THEN 960: PRINT "MISSED... WHEW!":GOTO 1010
960 P=P-1000: PRINT "DIRECT HIT!...POWER DOWN.":GOTO 1010
970 IF A > 11000 THEN 870:P(1)=P(1)-10:PRINT "ENEMY FIRES SHELL...."
980 FOR D=1 TO A STEP 1000: NEXT D
990 IF O=1 THEN 1000:PRINT "MISSED...WHEW!":GOTO 1010
1000 PRINT "DIRECT HIT .....POWER DOWN.":P=P-100
1010 PRINT:PRINT:PRINT TAB( 10);"STATUS OF SHIP":PRINT TAB( 10);"--------------"
1020 PRINT "RANGE = ";:PRINT USING F6$;A;:PRINT "  POWER SUPPLY = ";:
     PRINT USING F4$;P: IF P<1 THEN 1130
1030 GOTO 520
1040 P(1)=P(1)+100: PRINT "ENEMY SHIP RESTING.":GOTO 1010
1050 B=INT(RND(1)*40000!+10000:A=A-B:PRINT "ENEMY SHIP APPROACHING, ";A$;B$;
1055 PRINT C$;" "
1060 GOTO 1010
1070 B=RND(1)*40000!+10000:A=A+B:PRINT "ENEMY SHIP RETREATING.":GOTO 1010
1080 PRINT "THAT WAS A PRETTY DUMB THING TO DO, ";A$;B$;C$;"."
1090 PRINT "YOUR MISSION IS TO PROTECT YOUR PASSENGERS, NOT DESTROY."
1100 GOTO 1140
1110 PRINT "ENEMY SHIP'S POWER GONE..... NO LIFE PRESENT."
1120 PRINT "MISSION SUCCESSFUL!":GOTO 1210
1130 PRINT:PRINT "ENEMY IS VICTOR.... LIFE SUPPORT FADING.... CREW DYING...."
1140 REM
1150 PRINT
1160 PRINT
1170 PRINT
1180 PRINT "PLAY AGAIN";
1190 INPUT A$
1200 IF LEFT$(A$,1)="Y" THEN 80
1210 END
10000 LINE INPUT "ENTER 'RETURN' TO CONTINUE. ";XX$
10010 PRINT CHR$(26)
10020 RETURN
```

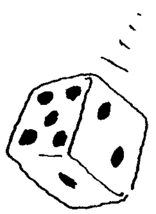
Under&Over
(주사위 게임)



재미있는 주사위 게임이다. 두 개의 주사위를 던져서 나온 수의 합계와, 당신이 돈을 건 수(2부터 12까지의 어느 수에 걸든 상관없다)가 같으면 돈을 딴다.

만약 당신이 7 이하의 수에 돈을 걸고, 두 주사위를 던져서 나온 수의 합계도 7 이하라면 건 돈의 배액을 받는다. 또, 당신이 돈을 건 수가 8 이상이고, 두 주사위를 던져서 나온 수의 합계도 8 이상이면 역시 건 돈의 배액을 받는다. 단, 당신이 7에 돈을 걸었고, 두 주사위를 던져서 나온 수의 합계도 7일 때에만은 건 돈의 5배가 되어 당신에게 돌아간다. 그 밖의 경우에는 당신이 건 돈을 빼앗기게 된다.

게임은 돈이 다 없어지든가, 게임을 중단시킬 때까지 계속된다.



```
RUN
                    UNDER OR OVER
                  CREATIVE COMPUTING
                MORRISTOWN, NEW JERSEY


THIS IS A GAME OF UNDER AND OVER. IF YOU PICK
UNDER OR OVER SEVEN, YOU WILL WIN EVEN MONEY.
IF YOU PICK EVEN YOU WILL WIN MONEY AT FOUR TO ONE
ODDS. YOU HAVE $100 TO START WITH. GOOD LUCK!

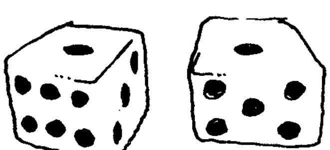

WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 4,10  어느 수에 얼마를 걸겠읍니까?

THE DICE HAVE NOW BEEN THROWN. THE RESULTS  주사위는 던져졌읍니다.
ARE AS FOLLOWS:   결과는 아래와 같습니다.
 DIE #1        DIE #2        SUM           YOUR#         TOSS
 2             5             7             4             EVEN

                !!!!!YOU LOSE!!!!!
THE AMOUNT YOU NOW HAVE IS 100  당신의 현재 총액은 100.

WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 4,10

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1        DIE #2        SUM           YOUR#         TOSS
 1             4             5             4             UNDER
                                                         7보다 아래
              ********YOU WIN EVEN MONEY********
THE AMOUNT YOU NOW HAVE IS 110  당신이 이겼읍니다.
```



```
WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 7,20

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 5            6            11         7           OVER
                                                  7보다 위
               !!!!!YOU LOSE!!!!!
THE AMOUNT YOU NOW HAVE IS 90

WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 8,10

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 2            1            3          8           UNDER

               !!!!!YOU LOSE!!!!!
THE AMOUNT YOU NOW HAVE IS 80
WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 9,20

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 2            1            3          9           UNDER

               !!!!!YOU LOSE!!!!!
THE AMOUNT YOU NOW HAVE IS 60

WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 5,10

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 5            5            10         5           OVER

               !!!!!YOU LOSE!!!!!
THE AMOUNT YOU NOW HAVE IS 50

WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 6,10

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 4            2            6          6           UNDER

               ********YOU WIN 4 TO 1********  대 히트!
THE AMOUNT YOU NOW HAVE IS 90                4 배 더 돌아옵니다.

WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 8,90

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 5            3            8          8           OVER

               ********YOU WIN 4 TO 1********
THE AMOUNT YOU NOW HAVE IS 450

WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 7,450

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 6            1            7          7           EVEN

               ********YOU WIN 4 TO 1********
THE AMOUNT YOU NOW HAVE IS 2250

WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 4,2250

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 6            1            7          4           EVEN

               !!!!!YOU LOSE!!!!!
THE AMOUNT YOU NOW HAVE IS 2250
```

```
WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 4,2250

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 1            5            6          4           UNDER

               ********YOU WIN EVEN MONEY********
THE AMOUNT YOU NOW HAVE IS 4500

WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH
DO YOU WANT TO BET ON THE NUMBER? 7,4500

THE DICE HAVE NOW BEEN THROWN. THE RESULTS
ARE AS FOLLOWS:
 DIE #1       DIE #2       SUM        YOUR#       TOSS
 3            5            8          7           OVER

               !!!!!YOU LOSE!!!!!
THE AMOUNT YOU NOW HAVE IS 0  당신의 현재 총액은 0.

THE GAME IS OVER AND YOU ARE FLAT BROKE. SORRY CHARLIE
THIS PROVES THAT IT IS NOT GOOD TO GAMBLE
DO YOU WANT TO PLAY AGAIN? NO  다시 한 번 하겠습니까?
Ok
```

```
100 PRINT TAB( 25);"UNDEROVER"
110 PRINT TAB( 20);"CREATIVE COMPUTING"
120 PRINT TAB( 18);"MORRISTOWN, NEW JERSEY"
125 F$="   #              #          ##               ##
130 PRINT:PRINT:PRINT
140 PRINT"THIS IS A GAME OF UNDER AND OVER.  IF YOU PICK"
150 PRINT"UNDER OR OVER SEVEN, YOU WILL WIN EVEN MONEY. "
160 PRINT"IF YOU PICK EVEN YOU WILL WIN MONEY AT FOUR TO ONE"
170 PRINT"ODDS.  YOU HAVE $100 TO START WITH.  GOOD LUCK!":PRINT:PRINT
180 A=100
190 RESTORE
200 REM
210 READ A$,B$,C$
220 DATA "UNDER","OVER","EVEN"
230 PRINT"WHAT NUMBER DO YOU WISH TO PLAY AND HOW MUCH"
240 PRINT"DO YOU WANT TO BET ON THE NUMBER"; INPUT B,C
250 PRINT:PRINT"THE DICE HAVE NOW BEEN THROWN.  THE RESULTS"
260 PRINT"ARE AS FOLLOWS."
265 PRINT
270 Q=INT(6*RND(1)+1):R=INT(6*RND(1)+1)
280 PRINT"DIE #1","DIE #2","SUM","YOUR #","TOSS"
282 PRINT"------","------","---","------","----"
290 IF Q+R>7 THEN 310
295 IF Q+R=7 THEN 320
300 PRINT USING F$,Q,R,Q+R,B,A$:PRINT:GOTO 330
310 PRINT USING F$,Q,R,Q+R,B,B$:PRINT:GOTO 330
320 PRINT USING F$,Q,R,Q+R,B,C$:PRINT
330 IF B=Q+R THEN 340
335 IF B<>Q+R THEN 410
340 IF B<=6 OR B>=8 THEN 380
350 A=A+(4*C)
360 PRINT TAB( 20)"******** YOU WIN 4 TO 1 ********":PRINT
370 GOSUB 5000:GOTO 440
380 A=A+C
390 PRINT TAB( 20)"******** YOU WIN EVEN MONEY ********"
400 GOSUB 5000:GOTO 440
410 A=A-C
420 PRINT TAB( 20)"!!!!! YOU LOSE !!!!!"
430 GOSUB 5000:GOTO 440
440 IF A>0 THEN 190
450 PRINT:PRINT"THE GAME IS OVER AND YOU ARE FLAT BROKE.  SORRY CHARLIE,"
460 PRINT"THIS PROVES THAT IT IS NOT GOOD TO GAMBLE. ":GOTO 470
470 PRINT:PRINT"DO YOU WANT TO PLAY AGAIN";:INPUT W$
480 IF LEFT$(W$,1)="Y" THEN 180
490 END
5000 PRINT:PRINT "YOU NOW HAVE";:PRINT USING "$$###";A;:PRINT ".":PRINT
5010 RETURN
```

Van Gam (해법 게임)

이것은 재미있는 해법(解法)게임이다. 다음의 황금률 $1+\sqrt{5}/2$를 사용하면 좀 색다른 수식이 해법을 유도한다. 만약 $T=1+\sqrt{5}/2 : X=T+1 : Y=1/T+1$이라 하면, 이길 수 있는 수열은 다음과 같다.

INT(N*X) 2 5 7 10 13……

INT(N*Y) 1 3 4 6 8 ……

여러 가지 조합을 생각할 수 있지만, 오직 하나, $T=\frac{1+\sqrt{5}}{2}$만이 승리로 연결되는 것이다. 처음에는 컴퓨터가 너무 강해 재미가 없을 테지만, 여러분이 이길 수 있는 수열을 납득하면, 실력은 막상 막하. 상당히 재미있을 것이다.

This program by Alan Brown first appeared in *Creative Computing*, Jan/Feb 1978.

```
RUN
                         VANGAM
                   CREATIVE COMPUTING
                 MORRISTOWN, NEW JERSEY


VAN WYTHOFF'S GAME: DO YOU WANT INSTRUCTIONS? YES 설명이 필요합니까?
YOU ARE TO CREATE TWO PILES OF MATCHES, EACH CONTAINING 100
OR LESS.  YOU PLAY ALTERNATELY WITH ME, AND OUR MOVES CONSIST
OF:
          (A) TAKING AWAY 1 OR MORE MATCHES FROM ONE PILE ONLY, OR
          (B) TAKING AWAY THE SAME NUMBER FROM EACH PILE.
THE ONE WHO TAKES AWAY THE LAST MATCH OF ALL WINS.
ENTER YOUR MOVES IN THIS MANNER:
          2L - (2 LEFT) TAKE TWO FROM LEFT PILE      왼쪽에서 2개 취한다.
          3R - (3 RIGHT) TAKE THREE FROM RIGHT PILE 오른쪽에서 3개 취한다.
          5B - (5 BOTH) TAKE FIVE FROM EACH PILE     양쪽에서 5개 취한다.


DESIRED PILE SIZES (NUMBER,NUMBER)? 17,22  최초의 양(수)은?
DO YOU WANT TO GO FIRST? YES  먼저하겠읍니까?
                         LEFT  RIGHT
                          17    22

YOUR MOVE:  ? 3L  당신의 움직임은?
                 LEAVING  14    22
HM.. I TAKE : 2B  LEAVING  12    20

YOUR MOVE:  ? 3B
                 LEAVING  9     17
HM.. I TAKE : 2R  LEAVING  9     15

YOUR MOVE:  ? 5R
                 LEAVING  9     10
HM.. I TAKE : 3L  LEAVING  6     10

YOUR MOVE:  ? 3B
                 LEAVING  3     7
HM.. I TAKE : 2R  LEAVING  3     5

YOUR MOVE:  ? 3R
                 LEAVING  3     2
HM.. I TAKE : 2L  LEAVING  1     2

YOUR MOVE:  ? 1R
                 LEAVING  1     1
HM.. I TAKE : 1B  LEAVING  0     0

SORRY - I WIN.  DON'T FEEL BADLY - I'M AN EXPERT.
유감이지만, 내가 이겼읍니다.
DO YOU WANT TO PLAY AGAIN? YES  다시 한 번 하겠읍니까?


DESIRED PILE SIZES (NUMBER,NUMBER)? 26,16
DO YOU WANT TO GO FIRST? NO
                         LEFT  RIGHT
                          26    16
I TAKE :        1L  LEAVING  25    16

YOUR MOVE:  ? 2B
                 LEAVING  23    14
HM.. I TAKE : 1L  LEAVING  22    14

YOUR MOVE:  ? 2B
                 LEAVING  20    12
HM.. I TAKE : 1L  LEAVING  19    12

YOUR MOVE:  ? 1B
                 LEAVING  18    11
HM.. I TAKE : 1L  LEAVING  17    11

YOUR MOVE:  ? 2B
                 LEAVING  15    9
HM.. I TAKE : 1L  LEAVING  14    9

YOUR MOVE:  ? 1B
                 LEAVING  13    8
HM.. I TAKE : 1L  LEAVING  12    8

YOUR MOVE:  ? 2B
                 LEAVING  10    6
HM.. I TAKE : 1L  LEAVING  9     6

YOUR MOVE:  ? 2B
                 LEAVING  7     4
HM.. I TAKE : 1L  LEAVING  6     4

YOUR MOVE:  ? 1B
                 LEAVING  5     3
HM.. I TAKE : 1L  LEAVING  4     3

YOUR MOVE:  ? 2B
                 LEAVING  2     1
HM.. I TAKE : 1L  LEAVING  1     1

YOUR MOVE:  ? 1B
                 LEAVING  0     0
HM..

YOU WIN!!  당신의 승리!

CONGRATULATIONS.  YOU ARE A VERY CLEVER VAN WYTHOFF'S
GAMESMAN.

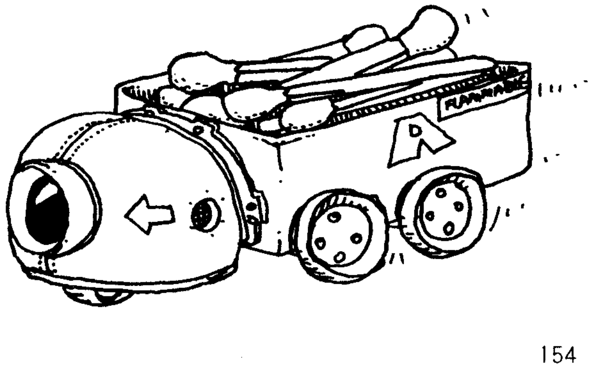
DO YOU WANT TO PLAY AGAIN? NO

O.K.  BYE NOW.
OK
```

```
5 PRINT TAB( 26);"VANGAM"
6 PRINT TAB( 20);"CREATIVE COMPUTING"
7 PRINT TAB( 18);"MORRISTOWN, NEW JERSEY"
8 PRINT:PRINT
10 DIM Q(200)
15 X=(1+SQR(5))/2:Y=1+1/X:X=1+X
16 FOR I=0 TO 99
17 Q(I*2)=INT(I*X):Q(I*2+1)=INT(I*Y)
18 NEXT I:T=0
20 PRINT "VAN WYTHOFF'S GAME: DO YOU WANT INSTRUCTIONS";
30 INPUT B$:IF LEFT$(B$,1)="N" THEN 130
35 PRINT
40 PRINT "YOU ARE TO CREATE TWO PILES OF MATCHES, EACH CONTAINING 100"
50 PRINT "OR LESS.  YOU PLAY ALTERNATELY WITH ME, AND OUR MOVES"
60 PRINT "CONSIST OF:":PRINT
65 PRINT TAB( 10);"(A) TAKING AWAY 1 OR MORE MATCHES";
67 PRINT " FROM ONE PILE ONLY, OR"
70 PRINT TAB( 10);"(B) TAKING AWAY THE SAME NUMBER FROM EACH PILE."
75 PRINT
80 PRINT "THE ONE WHO TAKES AWAY THE LAST MATCH OF ALL WINS."
85 PRINT
90 PRINT "ENTER YOUR MOVES IN THIS MANNER:"
95 PRINT
100 PRINT TAB( 10);"2L - (2 LEFT) TAKE TWO FROM LEFT PILE"
110 PRINT TAB( 10);"3R - (3 RIGHT) TAKE THREE FROM RIGHT PILE"
120 PRINT TAB( 10);"5B - (5 BOTH) TAKE FIVE FROM EACH PILE"
130 PRINT:PRINT
200 INPUT "DESIRED PILE SIZES (NUMBER,NUMBER)";S1,S2
210 L=S1:R=S2
220 IF L+R>5 THEN 240
230 PRINT "OH, YOU'RE A SPORT, YOU ARE."
240 PRINT:INPUT "DO YOU WANT TO GO FIRST";B$
255 PRINT:PRINT TAB( 27);"LEFT  RIGHT"
256 PRINT TAB( 27);"----  -----"
257 PRINT TAB( 27);L;TAB( 33);R
260 P=L*2:IF L>R THEN 400
270 P=R*2
400 IF LEFT$(B$,1)="N" THEN 690
405 IF L=R THEN PRINT "YOU LIKE SITTING DUCKS, DON'T YOU?"
410 PRINT:LINE INPUT "YOUR MOVE?    ";B$
415 FOR X=1 TO LEN(B$)
420 IF ASC(MID$(B$,X,1))<48 OR ASC(MID$(B$,X,1))>57 THEN 425
423 NEXT X
425 S3=VAL(MID$(B$,1,X-1))
427 IF S3=0 THEN 460
430 IF MID$(B$,X,1)="L" THEN 550
440 IF MID$(B$,X,1)="R" THEN 570
450 IF MID$(B$,X,1)="B" THEN 590
460 T=T+1:IF T>2 THEN 1940
470 PRINT:PRINT "IMPROPER ENTRY, STOP FOOLING AROUND.":GOTO 410
550 IF S3>L THEN 460
555 L=L-S3:GOTO 610
570 IF S3>R THEN 460
575 R=R-S3:GOTO 610
590 IF S3>L THEN 460
600 L=L-S3:GOTO 570
610 PRINT TAB( 19);"LEAVING";TAB( 27);L;TAB( 33);R
614 PRINT:PRINT "HM..  ";
615 FOR I=1 TO 500:A=A+I:NEXT I
620 IF L+R>0 THEN 690
630 PRINT:PRINT:PRINT "YOU WIN!!":PRINT
635 PRINT "CONGRATULATIONS.  YOU ARE A VERY CLEVER VAN WYTHOFF'S"
```

```
637 PRINT "GAMESMAN."
640 GOTO 1900
690 I=0:M=0
700 IF Q(I)=L THEN 760
710 IF Q(I+1)=L THEN 780
720 IF Q(I)=R THEN 800
730 IF Q(I+1)=R THEN 820
740 I=I+2:GOTO 700
760 L1=I:L2=1:IF M=1 THEN 840
770 M=1:GOTO 720
780 L1=I:L2=0:IF M=1 THEN 840
790 M=1:GOTO 720
800 R1=I:R2=1:IF M=1 THEN 840
810 M=1: GOTO 740
820 R1=I:R2=0:IF M=1 THEN 840
830 M=1: GOTO 740
840 IF L=R THEN 895
845 IF R1=L1 THEN 1080
850 IF L1>R1 THEN 900
860 P=L1+L2
880 IF Q(P)>R THEN 940
890 M=R-Q(P):R=Q(P):A$="R":GOTO 1110
895 M=L:L=0:R=0:A$="B":GOTO 1110
900 P=R1+R2
920 IF Q(P)>L THEN 940
930 M=L-Q(P):L=Q(P):A$="L":GOTO 1110
940 M=0:A$="B"
950 P=L1:IF R1<L1 THEN P=R1
960 P=P-2:G=0
965 M=M+1:L=L-1:R=R-1
970 FOR I=P TO 0 STEP -2
990 IF Q(I)=L THEN 1040
1000 IF Q(I+1)=L THEN 1050
1010 IF Q(I)=R THEN 1060
1020 IF Q(I+1)=R THEN 1070
1030 NEXT I:GOTO 965
1040 IF Q(I+1)=R THEN 1110
1045 GOTO 1075
1050 IF Q(I)=R THEN 1110
1055 GOTO 1075
1060 IF Q(I+1)=L THEN 1110
1065 GOTO 1075
1070 IF Q(I)=L THEN 1110
1075 IF G=1 THEN 960
1077 G=1:GOTO 965
1080 IF L>R THEN 1100
1090 R=R-1:M=1:A$="R":GOTO 1110
1100 L=L-1:M=1:A$="L"
1110 B$="":IF M>9 THEN 1930
1113 B$=CHR$(M+48)
1114 B$=B$+A$
1115 PRINT "I TAKE: ";TAB( 14);B$;TAB( 19);"LEAVING";TAB( 27);L;TAB( 33);R
1120 IF L+R>0 THEN 410
1130 PRINT:PRINT "SORRY - I WIN.  DON'T FEEL BADLY - I'M AN EXPERT."
1900 PRINT:INPUT "DO YOU WANT TO PLAY AGAIN";B$
1910 IF LEFT$(B$,1)="Y" THEN 130
1920 GOTO 1970
1930 B$=CHR$(INT(M/10)+48):B$=B$+CHR$(M-INT(M/10)*10+48)
1935 GOTO 1114
1940 PRINT:PRINT "LOOK, YOU JUST WON'T STOP FOOLING ABOUT.  BUZZ OFF."
1945 GOTO 1970
1970 PRINT:PRINT "O.K.  BYE NOW."
1980 END
```





Warfish (어뢰전)

지금은 제 2 차 세계 대전 중, 당신은 미국 잠수함의 사령관이 되어, 일본 배를 되도록 많이 격침하는 사명을 가지고 있다.

당신은 적을 찾는 데에 잠망경을 사용할 수 있으며, 어뢰를 발사할 수도 있다. 또, 당신을 공격해 오는 적함을 피하기 위해서 물 속 깊이 잠수할 수도 있다.

Warfish was written by Randy Wit.

```
RUN
                              WARFISH
                          CREATIVE COMPUTING
                        MORRISTOWN, NEW JERSEY

DO YOU DESIRE THE RULES OF WARFISH ? YES  설명이 필요합니까?

YOU COMMAND AN AMERICAN SUBMARINE THAT BEEN SENT OUT
TO ATTACK JAPANESE SHIPS AT SEA DURING WORLD WAR TWO

 THE ORDERS THAT CAN BE GIVEN ARE THE FOLLOWING: 명령은  다음과 같습니다.
PERISCOPE  - TO SEARCH FOR JAPANESE SHIPS  잠망경-- 일본 배를 찾는다.
TORPEDO - TO LAUNCH TORPEDOES AT JAPANESE SHIPS    어뢰--일본 배를 쏜다.
DIVE - TO ESCAPE JAPANESE SHIPS THAT ARE ATTACKING 잠수 — 도망하는 일본 배를
                                                           공격한다.
THESE ARE SOME HISTORIC U.S. NAVY SUBMARINES -  다음은 미국 해군의 역사적인
      TAUTOG, SILVERSIDES, CAVALLA, BLUEFISH, THRESHER 잠수함의 이름입니다.
       SWORDFISH, FLASHER, TROUT,ARCHER
SELECT ONE OF THE ABOVE, OR USE A NAME OF YOUR CHOICE  위에서 하나를
PRINT THE NAME OF YOUR SUBMARINE ? TROUT               선택하시오.


JAPANESE TORPEDO BOAT IS ATTACKING   일본의 구축함이 공격해 옵니다.


ORDERS, COMMANDER  ? DIVE  명령은?
DISTANCE OF JAPANESE TORPEDO BOAT              DEPTH OF USS TROUT
 1500 YARDS        일본 배까지의 거리            0 FEET
 1250 YARDS                                     25 FEET
 1000 YARDS                                     50 FEET
 750 YARDS                                     75 FEET
 500 YARDS                                     100 FEET
 250 YARDS                                     125 FEET
 0 YARDS                                      150 FEET
THE USS TROUT IS UNHURT  무사합니다.


ORDERS, COMMANDER  ? PERISCOPE
JAPANESE FREIGHTER -  7500  TONS 일본의 화물선 —— 7500 톤


ORDERS, COMMANDER  ? TORPEDO
 26  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 2   어뢰를 몇 발 쏘겠읍니까?
 2  TORPEDOES FIRED - 0  HITS    2 발 모두 불발


ORDERS, COMMANDER  ? TORPEDO
 24  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 3
 3  TORPEDOES FIRED - 0  HITS

ORDERS, COMMANDER  ? TORPEDO
 21  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 3
 3  TORPEDOES FIRED - 1  HITS -FREIGHTER SUNK
  세 발 중 한 발 명중······ 화물선 침몰.

ORDERS, COMMANDER  ? PERISCOPE
JAPANESE TRANSPORT -  11500  TONS


ORDERS, COMMANDER  ? TORPEDO
 18  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 3
 3  TORPEDOES FIRED - 2  HITS -TRANSPORT SUNK


ORDERS, COMMANDER  ? PERISCOPE
JAPANESE AMMUNITION SHIP -  9650  TONS


ORDERS, COMMANDER  ? TORPEDO
 15  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 2
 2  TORPEDOES FIRED - 0  HITS


ORDERS, COMMANDER  ? TORPEDO
 13  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 3
 3  TORPEDOES FIRED - 2  HITS -AMMUNITION SHIP SUNK


ORDERS, COMMANDER  ? PERISCOPE
JAPANESE AMMUNITION SHIP -  9650  TONS


ORDERS, COMMANDER  ? TORPEDO
 10  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 2
 2  TORPEDOES FIRED - 1  HITS -AMMUNITION SHIP SUNK


ORDERS, COMMANDER  ? PERISCOPE
JAPANESE FREIGHTER -  8100  TONS


ORDERS, COMMANDER  ? TORPEDO
 8  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 2
 2  TORPEDOES FIRED - 0  HITS


ORDERS, COMMANDER  ? TORPEDO
 6  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 3
 3  TORPEDOES FIRED - 0  HITS


ORDERS, COMMANDER  ? TORPEDO
 3  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 2
 2  TORPEDOES FIRED - 2  HITS -FREIGHTER SUNK


ORDERS, COMMANDER  ? PERISCOPE
JAPANESE TRANSPORT -  11500  TONS

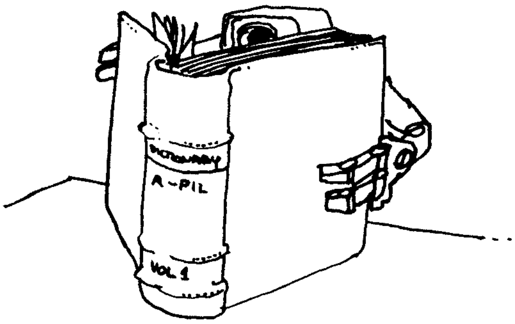

ORDERS, COMMANDER  ? TORPEDO
 1  TORPEDOES LEFT
NUMBER OF TORPEDOES TO FIRE? 1
 1  TORPEDOES FIRED - 1  HITS -TRANSPORT SUNK
THE USS TROUT HAS EXPENDED ALL OF ITS TORPEDOES
CONGRATULATIONS ON A SUCCESSFUL DEPLOYMENT
                     → 6 척이 침몰되었읍니다.
 THE SUBMARINE USS TROUT HAS SUNK A TOTAL OF 6  SHIPS
 THE ENEMY TONNAGE SUNK IS  57900  TONS
OK              적은 모두 57900 톤 침몰되었읍니다.
```

```
1 PRINT CHR$(26);TAB( 25)"WARFISH"
2 PRINT TAB( 20)"CREATIVE COMPUTING"
3 PRINT TAB( 18)"MORRISTOWN, NEW JERSEY"
5 PRINT
6 PRINT
7 PRINT
9 DIM A$(72)
10 Q0=RND(1)
30 PRINT"DO YOU DESIRE THE RULES OF WARFISH";
40 INPUT X$
50 IF LEFT$(X$,1)="N" THEN 200
51 IF LEFT$(X$,1)="Y" THEN 60
52 PRINT"YES OR NO ONLY, PLEASE."
53 GOTO 30
60 PRINT
70 PRINT"YOU COMMAND AN AMERICAN SUBMARINE THAT BEEN SENT OUT"
80 PRINT"TO ATTACK JAPANESE SHIPS AT SEA DURING WORLD WAR TWO."
90 PRINT
100 PRINT"THE ORDERS THAT CAN BE GIVEN ARE THE FOLLOWING:":PRINT
110 PRINT"PERISCOPE  - TO SEARCH FOR JAPANESE SHIPS."
120 PRINT"TORPEDO - TO LAUNCH TORPEDOES AT JAPANESE SHIPS."
130 PRINT "DIVE - TO ESCAPE JAPANESE SHIPS THAT ARE ATTACKING."
140 PRINT
150 PRINT"THESE ARE SOME HISTORIC U.S. NAVY SUBMARINES:":PRINT
160 PRINT"      TAUTOG, SILVERSIDES, CAVALLA, BLUEFISH, THRESHER"
170 PRINT"      SWORDFISH, FLASHER, TROUT, ARCHER.":PRINT
180 PRINT"SELECT ONE OF THE ABOVE, OR USE A NAME OF YOUR CHOICE."
200 PRINT"PRINT THE NAME OF YOUR SUBMARINE";
210 INPUT A$
220 T=26
230 D=INT(RND(1)*10)
240 IF D<6 THEN 330
250 IF D<>6 AND D<> 7 THEN 270
255 R$="DESTROYER"
260 W=2100
270 IF D<>8 THEN 290
271 R$="DESTROYER ESCORT"
280 W=1350
290 IF D<>9 THEN 310
291 R$="TORPEDO BOAT"
300 W=70
310 IF D=6  OR D=7 THEN 313
311 Q=1
312 GOTO 314
313 Q=2
314 PRINT
315 PRINT
320 PRINT"JAPANESE ";R$;" IS ATTACKING."
330 IF D>= 6 THEN 340
335 A=INT(RND(1)*10)
340 PRINT
350 PRINT
360 PRINT"ORDERS, COMMANDER";
370 INPUT C$
371 C$=MID$(C$,1,1)
380 IF C$="P" THEN 420
390 IF C$="T" THEN 780
400 IF C$="D" THEN 990
410 GOTO 360
420 IF D>5 OR Q>0 THEN 760
430 IF A>=4 THEN 470
435 R$="FREIGHTER"
440 IF A<>0 AND A<>1 THEN 450
445 W=6500
450 IF A<> 2 THEN 460
455 W=7500
460 IF A<>3 THEN 470
465 W=8100
470 IF A<>7 AND A<>8 THEN 490
475 R$="TANKER"
480 IF A<>8 THEN 485
481 W=10000
482 GOTO 490
485 W=9500
490 IF A<>4 AND A<>5 THEN 510
491 R$="TRANSPORT"
500 IF A<>5 THEN 505
501 W=11500
502 GOTO 510
505 W=8800
510 IF A<>6 THEN 530
515 R$="AMMUNITION SHIP"
520 W=9650
530 IF A>=9 OR A=6 THEN 540
535 Q=1
540 IF A<>6 THEN 550
545 Q=1
550 IF A<9 THEN 760
560 E=INT(RND(1)*10)
570 IF E<>0 THEN 590
575 R$="BATTLESHIP"
580 W=33500!
590 IF E<>1 THEN 610
595 R$="AIRCRAFT CARRIER"
600 W=25700
610 IF E<>2 THEN 630
615 R$="HEAVY CRUISER"
620 W=9900
630 IF E<>3 THEN 650
635 R$="LIGHT CRUISER"
640 W=9600
650 IF E<>4 AND E<>5 THEN 670
655 R$="DESTROYER"
660 W=2100
670 IF E<>6 AND E<>7 THEN 690
675 R$="SUBMARINE"
680 W=1500
690 IF E<>8 AND E<>9 THEN 710
700 W=1350
710 IF E<=5 THEN 720
715 Q=1
720 IF E<>4 AND E<>5 THEN 730
725 Q=2
730 IF E<>2 AND E<>3 THEN 740
735 Q=3
740 IF E<>1 THEN 750
745 W=4
750 IF E<>0 THEN 760
755 Q=7
760 PRINT "JAPANESE ";R$;" -";W;"TONS."
770 GOTO 340
780 IF Q>=1 THEN 800
785 PRINT "NO JAPANESE SHIPS IN SIGHT - JUST OCEAN."
790 IF Q<1 THEN 360
800 PRINT T;"TORPEDOES LEFT."
810 PRINT "NUMBER OF TORPEDOES TO FIRE";
820 INPUT R
830 IF R<0 OR T-R<0 THEN 810
840 IF R<>INT(R) THEN 810
850 T=T-R
860 S=INT(RND(1)*10)
870 IF S>R THEN 860
880 Q=Q-S
890 IF Q<=0 THEN 900
895 Q$="DAMAGED"
900 IF Q>=1 THEN 930
905 Q$="SUNK"
910 O=O+W
920 L=L+1
930 PRINT R;"TORPEDOES FIRED -";S;"HITS ";
940 IF S<>0 THEN 950
945 PRINT
950 IF S<=0 THEN 960
955 PRINT "- ";R$;" ";Q$;" "
960 IF D>5 AND Q>0 THEN 1140
970 IF T<1 THEN 1160
980 IF Q<1 THEN 230
985 GOTO 340
990 IF D>=6 THEN 1000
995 PRINT " THE USS ";A$;" IS NOT UNDER ATTACK."
1000 IF D<6 THEN 360
1010 U=INT(RND(1)*10)*250+500
1020 PRINT:PRINT "DISTANCE OF JAPANESE ";R$;"          DEPTH OF USS ";A$
1025 FOR XX=1 TO 72:PRINT "=";:NEXT:PRINT
1030 PRINT USING
     "       ##,### YARDS                         #,### FEET";U,Z
1040 U=U-250
1050 Z=Z+25
1060 IF U>-250 THEN 1030
1070 IF R$="TORPEDO BOAT" THEN 1100
1080 N=INT(RND(1)*10)*25+50
1090 IF N+26>Z AND N-26<Z THEN 1120
1099 U=0:Z=0
1100 PRINT:PRINT "THE USS ";A$;" IS UNHURT."
1110 Q=0
1111 GOTO 230
1120 PRINT:PRINT "THE USS ";A$;" HAS BEEN SUNK BY DEPTH CHARGES."
1130 GOTO 1180
1140 PRINT:PRINT "THE USS ";A$;" HAS BEEN SUNK BY GUNFIRE."
1150 GOTO 1180
1160 PRINT:PRINT "THE USS ";A$;" HAS EXPENDED ALL ITS TORPEDOES."
1170 IF O<=0 THEN 1180
1175 PRINT:PRINT "CONGRATULATIONS ON A SUCCESSFUL DEPLOYMENT."
1180 PRINT
1190 PRINT "THE SUBMARINE USS ";A$;" HAS SUNK A TOTAL OF";L;"SHIPS."
1200 PRINT "TOTAL ENEMY TONNAGE SUNK: ";:
     PRINT USING "###,###";O;:PRINT " TONS."
1205 PRINT:PRINT
1206 INPUT "DO YOU WANT TO TRY AGAIN";ANS$
1207 IF LEFT$(ANS$,1)="Y" THEN 30
1210 END
```

Word Search Puzzle
(단어찾기)

이것은 단어찾기 퍼즐이다. 유명 인사들의 이름, 지명, 동물이나 물고기 등 여러 가지 것의 이름을 포함하고 있다. 컴퓨터가, 만들고 싶은 퍼즐의 길이나 크기, 퍼즐에 숨겨져 있는 단어 수를 물어 온다. 게임 중 때로 컴퓨터가 단어를 모두 숨길 수 없는 경우, 다시하겠느냐, 아니면 그 단어를 그만두겠느냐를 물어 오는데, 만일 다시하고 싶다면, 단어 수가 좀 적은 것을 택하든지, 더 큰 퍼즐을 택하면 된다. 당신이 퍼즐에 익숙하게 되어도, 컴퓨터는 꽤 능숙하게 단어를 숨긴다. 당신이 게임을 단지 즐길뿐이라면, 이 프로그램만으로 충분히 만족할 수 있을 것이다.

This word search puzzle generator was originated by Leor Zolman.



```
RUN
                    WORD SEARCH PUZZLE
                    CREATIVE COMPUTING
                   MORRISTOWN, NEW JERSEY


 THIS PROGRAM IS A WORD SEARCH PUZZLE GENERATOR!!
THE PROGRAM TAKES A SET OF INPUT STRINGS, PURGES ALL
NON-ALPHABETIC CHARACTERS OUT OF THEM, AND INCORPORATES
THEM INTO A WORD SEARCH PUZZLE.

 IN THE COURSE OF MAKING THE PUZZLE, THE MACHINE MAY
FIND THAT IT CAN'T PUT A PARTICULAR WORD ANYWHERE, AND
SO WILL ASK YOU IF IT SHOULD START THE WHOLE PUZZLE
OVER.  IF YOU DON'T WANT IT TO START OVER, TYPING 'NO'
WILL THROW AWAY THAT PARTICULAR WORD.  IF THIS PERSISTS,
TRY EITHER GIVING LESS WORDS OR BIGGER PUZZLE DIMENSIONS!
```

```
                              몇 컬럼짜리 프린터를 가지고 합니까?
HOW MANY COLUMNS DOES YOUR PRINTER HAVE? 72
DO YOU WANT A SOLUTION PRINTOUT? YES   답을 프린트하겠읍니까?
WHAT IS TO BE THE WIDTH OF THE PUZZLE? 15  퍼즐의 폭은 몇으로 하겠읍니까?
THE LENGTH? 15   단어의 길이는?
WHAT IS THE MAXIMUM NUMBER OF WORDS IN THE PUZZLE? 10
        몇 단어까지 하겠읍니까?
NOW ENTER A HEADING THAT WILL BE PRINTED OVER THE PUZZLE:
( 72 CHARACTERS MAXIMUM! )                  단어를 입력하시오.
? COMPUTER LANGUAGES
OK . . . ENTER A WORD AT EACH QUESTION MARK.
TO REDO THE PREVIOUS WORD, TYPE A HYPHEN (-).
WHEN YOU RUN OUT OF WORDS, TYPE A PERIOD (.).
? BAS*&^Z$  IC
-basic-
? FOR)(*&TRAN
-fortran-
? P L I
-pli-
? C O B O L++*';
-cobol-
? ASSEMBNLER
-assembnler-
? -
REDO assembnler. . .
? ASSEMBLER
-assembler-
? RPG
-rpg-
? ALGOL
-algol-
? LISP
-lisp-
? SNOBOL
-snobol-
? PILOT
-pilot-
THAT'S IT... 10 WORDS.  이상 10 단어.
NOW LET ME PONDER THIS......
HOW MANY COPIES OF THIS PUZZLE DO YOU WANT? 1  몇 장 카피하겠읍니까?
FOR EACH COPY, HIT RETURN TO BEGIN PRINTING...
?
```

```
                  COMPUTER LANGUAGES

            B I U R W I X N R S K A T T Z
            O G O M L G S L R E P A O Y S
            Y V Y P F F A Z O I Z K C F P
            P M T T R H P P L G O S S S Y
            Z S R I H B S O J Y L N B X X
            E A C E K R T H S I O A H F N
            D F Q I L U K K Q B B F B R J
            D L Q T S B V A O H W W F G C
            Q I L Y D A N L K U P O V P A
            K X P O G Z B E X M R R F U D
            M V C S B P S Y S T I L X S U
            I I I D I O R G R S V A Y T Y
            E H N D A L C A N U A Z W J K
            L A C R Y L N V K T F Z O W C
            F V Q Y U A J F U G P Q J B V

                                                 위의 퍼즐 가운데서 숨어
FIND THESE HIDDEN WORDS IN THE ABOVE PUZZLE:  있는 단어를 찾으시오.

algol        assembler      basic        cobol        fortran
lisp         pilot          pli          rpg          snobol
```

```
                    HERE IS THE ANSWER KEY:

            . . . . . I . . . . . . . . .
            . . . . L . . L . . P . . . .
            . . . P . . . . O I . . . . .
            . . . . . . . . L G . . S . .
            . . R . . . . O . . L N . . .
            . . C E . . T . . . O A . . .
            . . . I L . . . . B . . . . .
            . . . . S B . . C . . . F . .
            . . L . . A M L . . . O . . .
            . . P O G . B E . . R . . . .
            . . . S B P . . S T . . . . .
            . . . . I O R . R S . . . . .
            . . . . . L C A . . A . . . .
            . . . . . . N . . . . . . . .
            . . . . . . . . . . . . . . .


FIND THESE HIDDEN WORDS IN THE ABOVE PUZZLE:

algol          assembler      basic          cobol          fortran
lisp           pilot          pli            rpg            snobol
```

```
10 PRINT TAB( 20);"WORD SEARCH PUZZLE"
20 PRINT TAB( 20);"CREATIVE COMPUTING"
30 PRINT TAB( 18);"MORRISTOWN, NEW JERSEY"
40 PRINT:PRINT:PRINT
50 PRINT "  THIS PROGRAM IS A WORD SEARCH PUZZLE GENERATOR!!"
60 PRINT "THE PROGRAM TAKES A SET OF INPUT STRINGS, PURGES ALL"
70 PRINT "NON-ALPHABETIC CHARACTERS OUT OF THEM, AND INCORPORATES"
80 PRINT "THEM INTO A WORD SEARCH PUZZLE."
90 PRINT
100 PRINT "  IN THE COURSE OF MAKING THE PUZZLE, THE MACHINE MAY"
110 PRINT "FIND THAT IT CAN'T PUT A PARTICULAR WORD ANYWHERE, AND"
120 PRINT "SO WILL ASK YOU IF IT SHOULD START THE WHOLE PUZZLE"
130 PRINT "OVER.  IF YOU DON'T WANT IT TO START OVER, TYPING 'NO'"
140 PRINT "WILL THROW AWAY THAT PARTICULAR WORD.  IF THIS PERSISTS,"
150 PRINT "TRY EITHER GIVING LESS WORDS OR BIGGER PUZZLE DIMENSIONS!"
160 PRINT:PRINT
200 CLEAR 3000
300 DEF FN A(Z)=INT(RND(1)*Z+1)
310 INPUT "HOW MANY COLUMNS DOES YOUR PRINTER HAVE";TW
320 INPUT "DO YOU WANT A SOLUTION PRINTOUT";X$
330 INPUT "WHAT IS TO BE THE WIDTH OF THE PUZZLE";W:MD=W
340 IF W*2<=TW THEN 345
343 PRINT "THAT WILL NOT FIT IN";TW;" COLUMNS.":GOTO 330
345 IF W<1 THEN 330
350 INPUT "THE LENGTH";L:IF L>W THEN MD=L
355 IF L<1 THEN 350
360 INPUT "WHAT IS THE MAXIMUM NUMBER OF WORDS IN THE PUZZLE";M
370 IF M>=2 THEN 380
375 PRINT "SORRY; THERE MUST BE AT LEAST 2 WORDS.":GOTO 360
380 PRINT
390 DIM A$(L,W),W$(M)
400 DIM W(M,3),DXY(8,2),DD(28)
410 PRINT "NOW ENTER A HEADING THAT WILL BE PRINTED OVER THE PUZZLE:"
420 PRINT "(";TW;"CHARACTERS MAXIMUM! )"
430 INPUT XY$
440 PRINT "OK . . . ENTER A WORD AT EACH QUESTION MARK."
450 PRINT "TO REDO THE PREVIOUS WORD, TYPE A HYPHEN (-)."
460 PRINT "WHEN YOU RUN OUT OF WORDS, TYPE A PERIOD (.)."
470 FOR I=1 TO M
480 INPUT T$:IF T$="-" THEN I=I-1:PRINT "REDO ";W$(I);". . .":GOTO 480
490 IF T$="." THEN M=I-1:GOTO 660
500 IF LEN(T$)=0 THEN PRINT "INPUT ERROR; REDO:":GOTO 480
510 J=1
520 TE$=MID$(T$,J,1):IF TE$>="A" AND TE$<="Z" THEN   570
525 IF TE$<"A" OR TE$>"Z" THEN 530
527 T$=LEFT$(T$,J-1)+CHR$(ASC(MID$(T$,J,1))+32)+RIGHT$(T$,LEN(T$)-J):GOTO 570
530 IF TE$=T$ THEN T$="": GOTO 580
540 IF J=LEN(T$) THEN T$=LEFT$(T$,J-1):GOTO 580
550 IF J=1 THEN T$=RIGHT$(T$,LEN(T$)-1):J=J-1:GOTO 570
560 T$=LEFT$(T$,J-1)+RIGHT$(T$,LEN(T$)-J):J=J-1
570 J=J+1:IF J<=LEN(T$) THEN 520
580 PRINT "-";T$;"-"
600 IF LEN(T$)<=MD THEN 610
605 PRINT "THAT'S TOO LONG, I'M AFRAID.";
607 PRINT " TRY ANOTHER ONE:":GOTO 480
610 FOR IZ=1 TO I-1: IF W$(IZ)<>T$ THEN NEXT:GOTO 630
620 PRINT "YOU ENTERED THAT ONE ALREADY.  TRY ANOTHER:":GOTO 480
630 W$(I)=T$
640 NEXT I
650 PRINT "THAT'S IT...";M;"WORDS."
660 PRINT "NOW LET ME PONDER THIS......"
680 FOR I=1 TO M-1
685 FOR J=I+1 TO M
690 IF LEN(W$(I)) < LEN(W$(J)) THEN HZ$=W$(I):W$(I)=W$(J):W$(J)=HZ$
700 NEXT:NEXT
710 FOR I=1 TO 8:READ DXY(I,1),DXY(I,2):NEXT
720 FOR I=1 TO 28:READ DD(I):NEXT
730 DATA 0,1,1,1,1,0,1,-1,0,-1,-1,-1,-1,0,-1,1
740 DATA 2,4,6,8,2,4,6,8,2,4,6,8,2,4,6,8,2,4,6,8,2,4,6,8,1,3,5,7
750 FOR I=1 TO M
760 LN=LEN(W$(I))
770 NT=0
790 SD=DD(FN A(28))
800 SX=FN A(W):X1=SX+(LN-1)*DXY(SD,1):IF X1<1 OR X1>W THEN 790
810 SY=FN A(L):X1=SY+(LN-1)*DXY(SD,2):IF X1<1 OR X1>L THEN 790
820 NT=NT+1:IF NT<>W*L*2 THEN 850
830 PRINT "COULDN'T FIT  '";W$(I);"'  IN THE PUZZLE."
832 INPUT "DO YOU WANT ME TO START OVER";A$
834 IF LEFT$(A$,1)="Y" THEN 750
836 W$(I)="":GOTO 950
850 J=SY:K=SX
860 FOR P=1 TO LN
870 IF LEN(A$(J,K)) AND A$(J,K)<>MID$(W$(I),P,1) THEN 790
880 J=J+DXY(SD,2):K=K+DXY(SD,1):NEXT P
900 J=SY:K=SX
910 FOR P=1 TO LN:A$(J,K)=MID$(W$(I),P,1)
920 J=J+DXY(SD,2):K=K+DXY(SD,1):NEXT
940 W(I,1)=SX:W(I,2)=SY:W(I,3)=SD
950 NEXT I
970 FOR I=1 TO L
975 FOR J=1 TO W
980 IF A$(I,J)="" THEN A$(I,J)=CHR$(FN A(26)+96)
990 NEXT:NEXT
1010 FOR I=1 TO M-1:FOR J=I+1 TO M
1020 IF W$(I)<=W$(J) THEN 1030
1021 HZ$=W$(I):W$(I)=W$(J):W$(J)=HZ$
1025 FOR K=1 TO 3:HZ=W(I,K):W(I,K)=W(J,K):W(J,K)=HZ:NEXT K
1030 NEXT J:NEXT I
1040 INPUT "HOW MANY COPIES OF THIS PUZZLE DO YOU WANT";N
1050 PRINT "FOR EACH COPY, HIT RETURN TO BEGIN PRINTING.  "
1060 FOR C=1 TO N:GOSUB 1070:NEXT:GOTO 1230
1070 INPUT A$:PRINT
1080 T=(TW-2*W)/2:PRINT
1090 PRINT
1100 PRINT TAB((TW-LEN(XY$))/2),XY$
1110 PRINT:PRINT
1120 FOR J=1 TO L:PRINT TAB( T);
1130 FOR K=1 TO W:IF A$(J,K)=" " THEN LPRINT "  "; :GOTO 1140
1135 PRINT CHR$(ASC(A$(J,K))-32);" ";
1140 NEXT:PRINT:NEXT
1150 PRINT:PRINT
1160 PRINT "FIND THESE HIDDEN WORDS IN THE ABOVE PUZZLE:"
1170 PRINT
1180 FOR J=1 TO M:IF LEN(W$(J))=0 THEN 1210
1190 IF POS(0) + LEN(W$(J)) > TW-2 THEN PRINT
1200 PRINT W$(J),
1209 REM
1210 NEXT:PRINT:PRINT:PRINT:PRINT
1220 RETURN
1230 IF LEFT$(X$,1)="Y" THEN 1250
1240 END
1250 REM
1260 FOR I=1 TO L:FOR J=1 TO W:A$(I,J)=" ":NEXT J:NEXT I
1270 FOR I=1 TO M
1280 LN=LEN(W$(I)):J=W(I,2):K=W(I,1)
1290 FOR P=1 TO LN
1300 A$(J,K)=MID$(W$(I),P,1)
1310 J=J+DXY(W(I,3),2):K=K+DXY(W(I,3),1):NEXT P
1320 NEXT I
1330 XY$="HERE IS THE ANSWER KEY:"
1340 GOSUB 1070
1350 PRINT:PRINT
1360 END
```

Wumpus 1 (웜프스 1)

웜프스의 기원

2년전, 나는 PCC(People's Computer Company)를 방문하여, Hurkle, Snark, Mugwump와 같은 컴퓨터 게임을 구경했다. 그 때 나의 놀라움이란 이루 말할 수 없었다. 그 게임들은 10×10의 직교 좌표를 베이스로 하고 있었는데, 대단히 힘겨운 것이었다. 그 뒤 나는 '컴퓨터 게임에 있어서의 숨바꼭질에 직교 좌표는 필요 없다'고 생각하게 되었다. 어째서 위상적 관계로는 안 되는 것일까? 선으로 연결된 점이 몇 개인가 있어, 플레이어는 그 선상을 이동하면 되지 않을까?

그 날 오후, 나는 '웜프스를 잡아라'라는 타이틀을 만들었고, 그렇게 해서 웜프스는 탄생되었다. 이 괴물(웜프스)은 아직 형태가 확실하지 않지만, 게임을 진행함에 따라 조금씩 밝혀질 것이다. 나는 좌표로서 찌그러진 12면체를 택했다. 이 게임에서는 터널인 각 변이 동굴인 각 정점을 연결하고 있다.

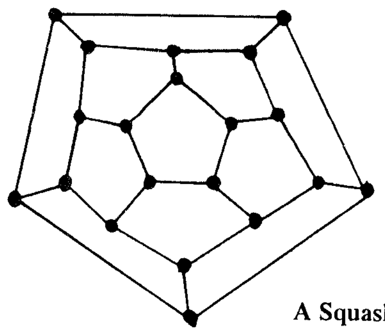
맨 처음에는 웜프스를 뒤쫓아가서 살짝 뒤에서 잡을 생각이었지만, 이것은 무리라는 것을 알았다. 왜냐하면, 많은 플레이어가 이와 같은 치사한 방법을 좋아하지 않을 것 같아서이다.

그렇다면 어떻게 해서 웜프스를 잡을 것인가. 동굴에서 동굴로 커브(Curve)하는 화살을 사용해 보자. 사냥꾼은 행선지를 알리고 화살을 쏜다. 구부러지는 화살은 반전하지 않으면 최대 5개의 동굴을 지나서 어디에든 갈 수 있다.

그러면, 웜프스가 있는 장소를 어떻게 알 것인가? 동굴은 어디나 어두우며, 불을 켠다면 웜프스가 잠을 깰 것이다. 그래서 웜프스 특유의 냄새를 풍겨 경고하게 했다. 그래도 게임이 단순한 것같아, 동굴에 적당한 장치를 하기로 했다.

상상의 동굴이라면 몇 개인가 반드시 있는 함정과, 좀 색다른 super 박쥐를 추가해 보았다. super 박쥐는 굉장히 빠른 수송기관으로, 당신을 잡기만 하면 무조건 눈깜짝할 사이에 다른 동굴로 운반해 간다. 그런데, 거기에 함정이 있는지 없는지, 웜프스가 있는지 없는지는 다만 신(神)만이 알 뿐…….

그리고 사냥에는 지도가 필요하므로, 나는 동굴에 번호를 붙였다. 동굴군(群)은 오른쪽 위 그림과 같이 찌그러진 12면체로 되어 있으니, 잘 갈 수 있도록 스스로 지도를 만들어 보라.



A Squashed Dodecahedron

게임을 시작할 때, 웜프스, 함정, super 박쥐, 사냥꾼은 각각 다른 동굴에 배치된다. 이들은 게임을 할 때마다 난수로 정해지는데, 만약 당신이 다시 한 번 같은 배치로 게임하고 싶으면, 그것도 선택할 수 있게 되어 있다. 예를 들면, 1회 이동했을 뿐으로 함정에 빠져버렸다면 당신은 같은 배치로 다시 해 보고 싶을 테니까 말이다.

웜프스는 나의 생각대로 움직인다(게임을 만드는 사람은 우선 게임의 주지를 확실하게 해 둘 필요가 있다). 그러나 아직 단순한 곳이 있는 것 같다. 웜프스가 있는 곳을 파악하면, 당신은 그를 화살로 쉽게 잡을 수 있을 것 같겠지만, 웜프스는 도망쳐 살 수 있을지도 모른다. 당신이 활을 쏘거나, 또는 웜프스의 동굴에 들어가거나 하면 웜프스는 잠을 깨어 75%의 확률로 옆의 동굴로 이동하기 때문이다. 그 때 당신과 웜프스가 한 동굴에 있게 되면, 당신은 잡혀 먹히고 게임이 끝난다.

웜프스는 함정도 super 박쥐도 무서워 하지 않는다. 웜프스는 놀라운 Jump력을 가지고 있을 뿐만 아니라, 체중이 너무 무거워 super 박쥐도 그를 들어올릴 수가 없기 때문이다.

프로그램을 개량하고 싶다면 함정을 없애거나, super 박쥐가 옆의 동굴로 웜프스를 운반하도록 할 수 있는데(이 때 당신이 있는 동굴에 웜프스가 떨어질지도 모른다), 그러려면 웜프스의 이동 루우틴을 수정해야 한다.

나는 이 게임을 PCC에 보냈다. 그리고 다시 '웜프스 2'를 구상했다.

윔프스의 출현

1개월 후, 나는 stanford의 스나기 평의회에 가 보았다. 그 곳은 세계를 바꾸어 보려는 의기에 찬 신진들이 모여 있는 곳인데, PCC도 그 곳에 있었다. 나는 깜짝 놀랐다. PCC의 단말이 모두 윔프스가 아닌가. 게다가 마루에 흩어져 있는 리스팅도 윔프스로 가득 차 있는 게 아닌가! 얼마나 멋진 컴퓨터 게임인가.

Wumpus and this writeup are the products of the talented and creative Gregory Yob.

```
RUN
                         WUMPUS
          CREATIVE COMPUTING  MORRISTOWN, NEW JERSEY


INSTRUCTIONS (Y-N)? Y     설명이 필요합니까?
WELCOME TO 'HUNT THE WUMPUS'
  THE WUMPUS LIVES IN A CAVE OF 20 ROOMS. EACH ROOM 싸움터는 12면체.
HAS 3 TUNNELS LEADING TO OTHER ROOMS. (LOOK AT A     윔프스는 20개의
DODECAHEDRON TO SEE HOW THIS WORKS-IF YOU DON'T KNOW 동굴 어딘가에
WHAT A DODECHADRON IS, ASK SOMEONE)                  있읍니다.

     HAZARDS: 위험.       두 개의 함정 어느 곳에 떨어져도 당신은 끝.
BOTTOMLESS PITS - TWO ROOMS HAVE BOTTOMLESS PITS IN THEM
     IF YOU GO THERE, YOU FALL INTO THE PIT (& LOSE!)
SUPERBATS - TWO OTHER ROOMS HAVE SUPER BATS. IF YOU
     GO THERE, A BAT GRABS YOU AND TAKES YOU TO SOME OTHER
     ROOM AT RANDOM. (WHICH MIGHT BE TROUBLESOME)
     수퍼 박쥐가 있읍니다. 만약 당신을 잡으면 아무 동굴에나 떨굽니다.
     WUMPUS:
THE WUMPUS IS NOT BOTHERED BY THE HAZARDS (HE HAS SUCKER 윔프스는,
FEET AND IS TOO BIG FOR A BAT TO LIFT). USUALLY          당신이 활을
HE IS ASLEEP. TWO THINGS THAT WAKE HIM UP: YOUR ENTERING 쏘든지,
HIS ROOM OR YOUR SHOOTING AN ARROW.                      자기 동굴로
     IF THE WUMPUS WAKES, HE MOVES (P=.75) ONE ROOM      뛰어들면,
OR STAYS STILL (P=.25). AFTER THAT, IF HE IS WHERE YOU 눈을 뜹니다.
ARE, HE EATS YOU UP (& YOU LOSE!) 윔프스와 같은 동굴에 있으면 당신은 끝장!

     YOU:    당신은 활을 쏠 것인지 이동할 것인지를 선택할 수 있읍니다.
EACH TURN YOU MAY MOVE OR SHOOT A CROOKED ARROW
     MOVING: YOU CAN GO ONE ROOM (THRU ONE TUNNEL)             활은 5개 쏘면 끝.
     ARROWS: YOU HAVE 5 ARROWS. YOU LOSE WHEN YOU RUN OUT.     활은, 최대 5개의 동
     EACH ARROW CAN GO FROM 1 TO 5 ROOMS. YOU AIM BY TELLING 굴을 통과할 수 있으
     THE COMPUTER TTHE ROOM#S YOU WANT THE ARROW TO GO TO.   며, 통과할 동굴은 당
     IF THE ARROW CAN'T GO THAT WAY (IE NO TUNNEL) IT MOVES  신이 지정합니다.
     AT RANDOM TO THE NEXT ROOM.
       IF THE ARROW HITS THE WUMPUS, YOU WIN. 활로 윔프스를 맞히면 당신의 승리.
       IF THE ARROW HITS YOU, YOU LOSE. 당신이 맞으면 당신은 끝.

     WARNINGS: 경고
      WHEN YOU ARE ONE ROOM AWAY FROM WUMPUS OR HAZARD,
     THE COMPUTER SAYS: 위험물이 있는 옆 동굴로 오면, 다음의 경고가 나옵니다.
WUMPUS-   'I SMELL A WUMPUS'
BAT   -   'BATS NEARBY'
PIT   -   'I FEEL A DRAFT'

HUNT THE WUMPUS

BATS NEARBY! 박쥐와 근접!
YOU ARE IN ROOM  7  당신은 7번 동굴에 있읍니다.
TUNNELS LEAD TO  6  8  17  터널은 6, 8, 17과 연결되어 있읍니다.

SHOOT OR MOVE (S-M)? M  활을 쏘겠읍니까, 이동하겠읍니까?
WHERE TO? 8
ZAP--SUPER BAT SNATCH! ELSEWHEREVILLE FOR YOU!

I FEEL A DRAFT!   함정이 가깝습니다!
YOU ARE IN ROOM  20
TUNNELS LEAD TO  13  16  19

SHOOT OR MOVE (S-M)? M
WHERE TO? 13

YOU ARE IN ROOM  13
TUNNELS LEAD TO  12  14  20

SHOOT OR MOVE (S-M)? M
WHERE TO? 14

YOU ARE IN ROOM  14
TUNNELS LEAD TO  4  13  15

SHOOT OR MOVE (S-M)? M
WHERE TO? 15

I FEEL A DRAFT!
YOU ARE IN ROOM  15
TUNNELS LEAD TO  6  14  16

SHOOT OR MOVE (S-M)? 6
SHOOT OR MOVE (S-M)? M
WHERE TO? 6

YOU ARE IN ROOM  6
TUNNELS LEAD TO  5  7  15

SHOOT OR MOVE (S-M)? 5
SHOOT OR MOVE (S-M)? M
WHERE TO? 5

YOU ARE IN ROOM  5
TUNNELS LEAD TO  1  4  6

SHOOT OR MOVE (S-M)? M
WHERE TO? 4

YOU ARE IN ROOM  4
TUNNELS LEAD TO  3  5  14

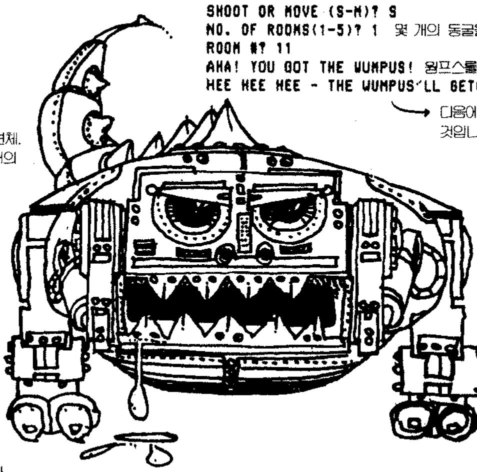
SHOOT OR MOVE (S-M)? M
WHERE TO? 3

I FEEL A DRAFT!
YOU ARE IN ROOM  3
TUNNELS LEAD TO  2  4  12

SHOOT OR MOVE (S-M)? M
WHERE TO? 12

I SMELL A WUMPUS!  윔프스의 냄새!
YOU ARE IN ROOM  12
TUNNELS LEAD TO  3  11  13

SHOOT OR MOVE (S-M)? S
NO. OF ROOMS(1-5)? 1  몇 개의 동굴을 통과합니까?
ROOM #? 11
AHA! YOU GOT THE WUMPUS! 윔프스를 잡았읍니다!
HEE HEE HEE - THE WUMPUS'LL GETCHA NEXT TIME!!
                    → 다음에는 윔프스가 이길 것입니다!
```



```
10 PRINT TAB( 33);"WUMPUS":PRINT
20 PRINT TAB( 15);"CREATIVE COMPUTING  MORRISTOWN, NEW JERSEY"
22 PRINT
24 PRINT
26 PRINT
30 PRINT "INSTRUCTIONS (Y-N)";
40 INPUT I$
50 IF LEFT$(I$,1)="N" THEN 60
55 GOSUB 1000
60 REM- SET UP CAVE (DODECAHEDRAL NODE LIST)
70 DIM S(20,3)
80 FOR J=1 TO 20
90 FOR K=1 TO 3
100 READ S(J,K)
110 NEXT K
120 NEXT J
130 DATA 2,5,8,1,3,10,2,4,12,3,5,14,1,4,6
140 DATA 5,7,15,6,8,17,1,7,9,8,10,18,2,9,11
150 DATA 10,12,19,3,11,13,12,14,20,4,13,15,6,14,16
160 DATA 15,17,20,7,16,18,9,17,19,11,18,20,13,16,19
170 DEF FN A(X)=INT(20*RND(1))+1
180 DEF FN B(X)=INT(3*RND(1))+1
190 DEF FN C(X)=INT(4*RND(1))+1
200 REM- LOCATE L ARRAY ITEMS
210 REM- 1-YOU,2-WUMPUS,3&4-PITS,5&6-BATS
220 DIM L(6),M(6)
230 FOR J=1 TO 6
240 L(J)=FN A(0)
260 M(J)=L(J)
270 NEXT J
280 REM- CHECK FOR CROSSOVERS (IE L(1)=L(2) ETC)
290 FOR J=1 TO 6
300 FOR K=J TO 6
310 IF J=K THEN 330
320 IF L(J)=L(K) THEN 240
330 NEXT K
340 NEXT J
350 REM- SET# ARROS
```

```
360 A=5
365 L=L(1)
370 REM- RUN JHE GAME
375 PRINT:PRINT "HUNT THE WUMPUS":PRINT
380 REM- HAZARD WARNINGS & LOCATIONS
390 GOSUB 2000
400 REM- MOVE OR SHOOT
410 GOSUB 2500
420 ON O GOTO 440,480
430 REM- SHOOT
440 GOSUB 3000
450 IF F=0 THEN 390
460 GOTO 500
470 REM- MOVE
480 GOSUB 4000
490 IF F=0 THEN 390
500 IF F>0 THEN 550
510 REM- LOSE
520 PRINT "HA HA HA - YOU LOSE!"
530 GOTO 560
540 REM- WIN
550 PRINT "HEE HEE HEE - THE WUMPUS'LL GETCHA NEXT TIME!!"
560 FOR J=1 TO 6
570 L(J)=M(J)
580 NEXT J
590 PRINT:PRINT "SAME SET-UP (Y-N) OR 'Q' TO QUIT"
600 INPUT I$
601 I$=LEFT$(I$,1)
610 IF I$="N" THEN 230 ELSE IF I$="Y" THEN 360 ELSE
    IF I$="Q" THEN END
1000 PRINT CHR$(26)'    INSTRUCTIONS
1010 PRINT "WELCOME TO 'HUNT THE WUMPUS'":PRINT
1020 PRINT "  THE WUMPUS LIVES IN A CAVE OF 20 ROOMS. EACH ROOM"
1030 PRINT "HAS 3 TUNNELS LEADING TO OTHER ROOMS. (LOOK AT A"
1040 PRINT "DODECAHEDRON TO SEE HOW THIS WORKS - IF YOU DON'T KNOW"
1050 PRINT "WHAT A DODECHADRON IS, ASK SOMEONE)"
1060 PRINT
1070 PRINT "     HAZARDS "
1080 PRINT "BOTTOMLESS PITS - TWO ROOMS HAVE BOTTOMLESS PITS IN THEM"
1090 PRINT "       IF YOU GO THERE, YOU FALL INTO THE PIT (& LOSE!)"
1100 PRINT "SUPERBATS - TWO OTHER ROOMS HAVE SUPER BATS. IF YOU"
1110 PRINT "       GO THERE, A BAT GRABS YOU AND TAKES YOU TO SOME";
1115 PRINT " OTHER"
1120 PRINT "       ROOM AT RANDOM. (WHICH MIGHT BE TROUBLESOME)"
1130 PRINT
1140 PRINT "     WUMPUS:"
1150 PRINT "   THE WUMPUS IS NOT BOTHERED BY THE HAZARDS (HE HAS SUCKER"
1160 PRINT "FEET AND IS TOO BIG FOR A BAT TO LIFT). USUALLY"
1170 PRINT "HE IS ASLEEP. TWO THINGS THAT WAKE HIM UP: YOUR ENTERING"
1180 PRINT "HIS ROOM OR YOUR SHOOTING AN ARROW."
1190 PRINT "   IF THE WUMPUS WAKES, HE MOVES (P=.75) ONE ROOM"
1200 PRINT "OR STAYS STILL (P=.25). AFTER THAT, IF HE IS WHERE YOU"
1210 PRINT "ARE, HE EATS YOU UP (& YOU LOSE!)"
1220 GOSUB 50000
1230 PRINT "       YOU:"
1240 PRINT "EACH TURN YOU MAY MOVE OR SHOOT A CROOKED ARROW":PRINT
1250 PRINT "       MOVING: YOU CAN GO ONE ROOM (THRU ONE TUNNEL)"
1260 PRINT "       ARROWS: YOU HAVE 5 ARROWS. YOU LOSE WHEN YOU RUN OUT."
1270 PRINT "       EACH ARROW CAN GO FROM 1 TO 5 ROOMS. YOU AIM BY ";
1275 PRINT "TELLING"
1280 PRINT "       THE COMPUTER THE ROOMS YOU WANT THE ARROW TO GO TO."
1290 PRINT "       IF THE ARROW CAN'T GO THAT WAY (I.E., NO TUNNEL) IT ";
1295 PRINT "MOVES"
1300 PRINT "       AT RANDOM TO THE NEXT ROOM.":PRINT
1310 PRINT "         IF THE ARROW HITS THE WUMPUS, YOU WIN."
1320 PRINT "         IF THE ARROW HITS YOU, YOU LOSE."
1330 PRINT
1340 PRINT "       WARNINGS:"
1350 PRINT "        WHEN YOU ARE ONE ROOM AWAY FROM WUMPUS OR HAZARD,"
1360 PRINT "       THE COMPUTER SAYS:":PRINT
1370 PRINT "WUMPUS-   'I SMELL A WUMPUS'"
1380 PRINT "BAT   -   'BATS NEARBY'"
1390 PRINT "PIT   -   'I FEEL A DRAFT'"
1400 PRINT
1405 GOSUB 50000
1410 RETURN
2000 REM- PRINT  LOCATION & HAZARD WARNINGS
2010 PRINT
2020 FOR J= 2 TO 6
2030 FOR K=1 TO 3
2040 IF S(L(1),K)<>L(J) THEN 2110
2050 ON J-1 GOTO 2060,2080,2080,2100,2100
2060 PRINT "I SMELL A WUMPUS!"
2070 GOTO 2110
2080 PRINT "I FEEL A DRAFT!"
2090 GOTO 2110
2100 PRINT "BATS NEARBY!"
2110 NEXT K
2120 NEXT J
2130 PRINT "YOU ARE IN ROOM ";L(1)
2140 PRINT "TUNNELS LEAD TO ";S(L,1);S(L,2);S(L,3)
2150 PRINT
2160 RETURN
2500 REM- CHOOSE OPTION
2510 PRINT "SHOOT OR MOVE (S-M)";
2520 INPUT I$
2530 IF I$ <> "S" THEN 2560
2540 O=1
2550 RETURN
2560 IF I$ <> "M" THEN 2510
2570 O=2
2580 RETURN
3000 REM- ARROW ROUTINE
3010 F=0
3020 REM- PATH OF ARROW
3030 L=L(1)
3040 PRINT "NO. OF ROOMS(1-5)";
3050 INPUT J9
3060 IF J9<1 OR J9>5 THEN 3040
3070 FOR K=1 TO J9
3080 PRINT "ROOM #";
3090 INPUT P(K)
3095 IF K <= 2 THEN 3115
3100 IF P(K) <> P(K-2) THEN 3115
3105 PRINT "ARROWS AREN'T THA TCORRKED - TRY ANOTHER ROOM"
3110 GOTO 3080
3115 NEXT K
3120 REM- SHOOT ARROW
3140 FOR K=1 TO J9
3150 FOR K1=1 TO 3
3160 IF S(L,K1)=P(K) THEN 3295
3170 NEXT K1
3180 REM- NO TUNNEL FOR ARROW
3190 L=S(L,FN B(1))
3200 GOTO 3300
3210 NEXT K
3220 PRINT "MISSED"
3225 L=L(1)
3230 REM- MOVE WUMPUS
3240 GOSUB 3370
3250 REM- AMMO CHECK
3255 A=A-1
3260 IF A>0 THEN 3280
3270 F=-1
3280 RETURN
3290 REM- SEE IF ARROW IS AT L(1) OR L(2)
3295 L=P(K)
3300 IF L <> L(2) THEN 3340
3310 PRINT "AHA! YOU GOT THE WUMPUS!"
3320 F=1
3330 RETURN
3340 IF L <> L(1) THEN 3210
3350 PRINT "OUCH! ARROW GOT YOU!"
3360 GOTO 3270
3370 REM- MOVE WUMPUS ROUTINE
3380 K=FN C(0)
3390 IF K=4 THEN 3410
3400 L(2)=S(L(2),K)
3410 IF L(2) <> L THEN 3440
3420 PRINT "TSK TSK TSK - WUMPUS GOT YOU!"
3430 F=-1
3440 RETURN
4000 REM- MOVE ROUTINE
4010 F=0
4020 PRINT "WHERE TO";
4030 INPUT L
4040 IF L<1 OR L>20 THEN 4020
4050 FOR K=1 TO 3
4060 REM- CHECK IF LEGAL MOVE
4070 IF S(L(1),K)=L THEN 4130
4080 NEXT K
4090 IF L=L(1) THEN 4130
4100 PRINT "NOT POSSIBLE -";
4110 GOTO 4020
4120 REM- CHECK FOR HAZARDS
4130 L(1)=L
4140 REM- WUMPUS
4150 IF L <> L(2) THEN 4220
4160 PRINT "... OOPS! BUMPED A WUMPUS!"
4170 REM- MOVE WUMPUS
4180 GOSUB 3380
4190 IF F=0 THEN 4220
4200 RETURN
4210 REM- PIT
4220 IF L <> L(3) AND L <> L(4) THEN 4270
4230 PRINT "YYYIIIIEEEE . . . FELL IN PIT"
4240 F=-1
4250 RETURN
4260 REM- BATS
4270 IF L <> L(5) AND L <> L(6) THEN 4310
4280 PRINT "ZAP--SUPER BAT SNATCH! ELSEWHEREVILLE FOR YOU!"
4290 L=FN A(1)
4300 GOTO 4130
4310 RETURN
5000 END
50000 PRINT:LINE INPUT "ENTER 'RETURN' TO CONTINUE. ";XX$
50010 PRINT CHR$(26)
50020 RETURN
```

Wumpus 2 (웜프스 2)

독자 여러분! 웜프스 사냥꾼은 50여 일이나 동굴에서 지내서 모든 정력이 떨어진 것 같습니다(텔레타이프는 타닥타닥 계속 소리를 내고, 마루 바닥은 리스팅의 산(山). 손가락에 못이 박힌 사냥꾼들은 피투성이가 되어 출구를 찾고 있는 것 같은……).

나는 12면체만으로는 싫증이 나지 않을까 생각되어, 새로 '웜프스 2'를 만들어 보았다. 3개의 터널로 동굴을 연결하는 방법은 많으며, 그 중 몇개는 위상 기하학적으로 보아도 흥이 있는 것이다.

'웜프스 2'는 동굴군(群)의 모양이 웜프스 1과 다를 뿐, 그 밖의 것은 마찬가지이다. 또, 당신 자신이 동굴을 디자인 할 수도 있다. 동굴 모양에 따라 여러 가지 드릴을 맛볼 수 있지 않을까 생각한다. 다음에 '웜프스 2'의 동굴군(群)의 패턴을 보인다.

CAVE 0(12면체)

당신이 알고 있는 '웜프스 1'과 똑같다.

CAVE 1(Mobius의 고리)

나는 처음부터 위상을 생각하고 있었기 때문에, 우선 여기에 위상의 경이(驚異)인 Mobius의 고리를 가져왔다. Mobius의 고리란, 가늘고 긴 종이를 비틀어 연결하여, 고리의 안쪽이 어느 틈엔가 밖이 되는 것이다. 의심나면 이 고리를 시험해 보도록.

예민한 플레이어라면, 함정이 세로로 두 개 나란히 있을 때, 부득이 돌아가는 길로 돌아가지 않을 수 없음을 알게 될 것이다(이것은 5%의 확률로 발생한다). 확실히 'CAVE 0'보다 시간은 더 걸리지만, 사냥은 이쪽이 훨씬 간단하다.

CAVE 2(beads의 고리)

그림을 보면 알 수 있을 것이다. 여기에서는, 함정의 장소에 따라서는 박쥐에 의해 운반되지 않는 한 고립되어 버리는 일이 있다. 그러므로 지도를 만들지 않으면 꽤 어렵다. 그렇지 않으면 계속해서 출발지점으로 되돌아오면서 게임을 진행하는 것이 좋을 것이다.

CAVE 3(6각형의 방)

이것은 내가 만든 도우넛이다. 벌집과 같은 다각형의 망이나 찌그러진 도우넛을 상상하기 바란다. 또는 복잡한 분자의 모형이라 생각해도 괜찮다. 이것은 CAVE 0과 아주 비슷하다.

CAVE 4(나무 모양)

어느 동굴로 가든 길은 오직 하나밖에 없는 단순한 모양이다. 그러나 나무의 가지처럼 되어 있기 때문에 몇 개의 패턴이 있다. 특히 빛의 '잎'에는 자기 자신의 터널이 연결되어 있고, 또 같은 동굴 사이에 2개의 터널이 있는 경우도 있다. 그런데 이 모양에서는, 함정이 웜프스의 바로 앞에 있거나 하면 치명적이 된다. 이러한 경우에는, 어떻게 하든지 웜프스가 있는 곳을 알아내는 도리밖에 없다.

CAVE 5(street)

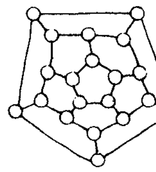
어느 터널이든 일방 통행으로 되어 있다. 마치 로스가를 걷고 있는 것 같은 기분인데, 만약 너무 많이 가면 한바퀴 빙 돌아 제자리로 돌아오게 된다.

CAVE 6(마음 내키는 대로)

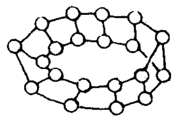
당신 자신이 동굴을 디자인할 수 있다. 컴퓨터가 20개의 동굴에 대해서 3개의 터널을 어느 동굴에 연결할 것인가를 물어 오므로, 당신은 디자인한 대로 입력하면 된다.

Wumpus-2 and this description are products of Gregory Yob. They appeared previously in *Creative Computing*, Jan/Feb 1976 and the game in *People's Computer Co*.

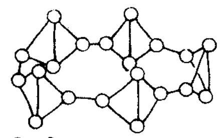
THE CAVES OF WUMPUS 2



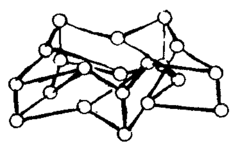
Cave 0 (the usual)



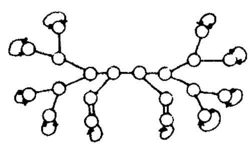
Cave 1 (Mobius Strip)



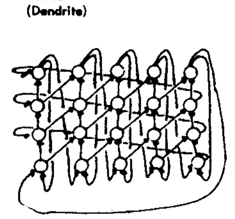
Cave 2 (String of Beads)



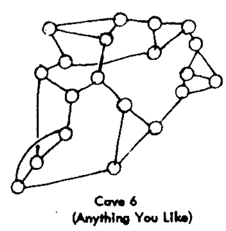
Cave 3 (Toroidal Hex Net)



Cave 4 (Dendrite)



Cave 5 (One Way Only)



Cave 6 (Anything You Like)

```
RUN
                    WUMPUS 2
               CREATIVE COMPUTING
             MORRISTOWN  NEW JERSEY



INSTRUCTIONS? YES  설명은?          규칙은 웜프스 1과 같습니다.
                                    어느 패턴도 동굴은 20개 있으며, 한
WELCOME TO WUMPUS II                터널에 3개씩 터널이 있읍니다.
THIS VERSION HAS THE SAME RULES AS 'HUNT THE WUMPUS'.
HOWEVER, YOU NOW HAVE A CHOICE OF CAVES TO PLAY IN.
SOME CAVES ARE EASIER THAN OTHERS. ALL CAVES HAVE 20
ROOMS AND 3 TUNNELS LEADING FROM ONE ROOM TO OTHER ROOMS.
THE CAVES ARE:
  0  -  DODECAHEDRON   THE ROOMS OF THIS CAVE ARE ON A  12면체
        12-SIDED OBJECT, EACH FORMING A PENTAGON.
        THE ROOMS ARE AT THE CORNERS OF THE PENTAGONS. 오각형이 세 개
        EACH ROOM HAVING TUNNELS THAT LEAD TO 3 OTHER ROOMS

  1  -  MOBIUS STRIP   THIS CAVE IS TWO ROOMS  Mobius의 고리.
        WIDE AND 10 ROOMS AROUND (LIKE A BELT) 세로 2, 가로 10의 동굴이
        YOU WILL NOTICE THERE IS A HALF TWIST 고리 모양으로 연결되어 있읍니다.
        SOMEWHERE.

  2  -  STRING OF BEADS    FIVE BEADS IN A CIRCLE.다이아몬드가 고리 모양으로
        EACH BEAD IS A DIAMOND WITH A VERTICAL    5개 연결된 모양.
        CROSS-BAR. THE RIGHT & LEFT CORNERS LEAD
        TO NEIGHBORING BEADS. (THIS ONE IS DIFFICULT
        TO PLAY) 참 어렵습니다.

  3  -  HEX NEWORK    IMAGINE A HEX TILE FLOOR. TAKE
        A RECTANGLE WITH 20 POINTS (INTERSECTIONS)
        INSIDE (4X4). JOIN RIGHT & LEFT SIDES TO MAKE A
        CYLINDER. THEN JOIN TOP & BOTTOM TO FORM A
        TORUS (DOUGHNUT).               직사각형을 이그러지게 하고
        HAVE FUN IMAGINING THIS ONE!!   이것저것 덧붙인 모양.

  CAVES 1-3 ARE REGULAR IN A SENSE THAT EACH ROOM  1~3은 정상.
GOES TO THREE OTHER ROOMS & TUNNELS ALLOW TWO-
WAY TRAFFIC. HERE ARE SOME 'IRREGULAR' CAVES:

  4  -  DENDRITE WITH DEGENERACIES   PULL A PLANT FROM 나무 가지 모양인데,
        THE GROUND. THE ROOTS & BRANCHES FORM A        돌아오는 터널이 있기
        DENDRITE - IE., THERE ARE NO LOOPING PATHS     도 하고, 평행하는 터
        DEGENERACY MEANS A) SOME ROOMS CONNECT TO      널도 있읍니다.
        THEMSELVES AND B) SOME ROOMS HAVE MORE THAN ONE
        TUNNEL TO THE SAME OTHER ROOM IE, 12 HAS
        TWO TUNNELS TO 13.

  5  -  ONE WAY LATTICE     HERE ALL TUNNELS GO ONE
        WAY ONLY. TO RETURN, YOU MUST GO AROUND THE CAVE
        (ABOUT 5 MOVES).  일방 통행

  6  -  ENTER YOUR OWN CAVE    THE COMPUTER WILL ASK YOU
        THE ROOMS NEXT TO EACH ROOM IN THE CAVE. 마음대로 터널을 만들 수
          FOR EXAMPLE:                                    있읍니다.
           ROOM #1     ? 2,3,4       - YOUR REPLY OF 2,3,4
            MEANS ROOM 1 HAS TUNNELS GOING TO ROOMS: 1번 동굴은?
            2, 3, & 4.   1에는 2, 3, 4로 통하는 터널이 있읍니다.
  HAPPY HUNTING!
CAVE #(0-6) ? 4    어느 패턴으로 하겠읍니까?

HUNT THE WUMPUS

I SMELL A WUMPUS! 웜프스 냄새!
BATS NEARBY!      박쥐 근접!
YOU ARE IN ROOM  11  TUNNELS LEAD TO  13  14  12

SHOOT OR MOVE ? S

NO. OF ROOMS ? 1

ROOM #? 13


MISSED    빗나갔읍니다.
SHOOT OR MOVE ? M

WHERE TO ? 13   어디로?

ZAP--SUPER BAT SNATCH! ELSEWHERESVILLE FOR YOU!

YOU ARE IN ROOM  6  TUNNELS LEAD TO  4  7  5

SHOOT OR MOVE ? M

WHERE TO ? 4

BATS NEARBY!
YOU ARE IN ROOM  4  TUNNELS LEAD TO  4  6  1

SHOOT OR MOVE ? M

WHERE TO ? 4


BATS NEARBY!
YOU ARE IN ROOM  4  TUNNELS LEAD TO  4  6  1

SHOOT OR MOVE ? M

WHERE TO ? 6


YOU ARE IN ROOM  6  TUNNELS LEAD TO  4  7  5

SHOOT OR MOVE ? M

WHERE TO ? 5


YOU ARE IN ROOM  5  TUNNELS LEAD TO  2  7  3

SHOOT OR MOVE ? M

WHERE TO ? 2


YOU ARE IN ROOM  2  TUNNELS LEAD TO  2  5  3

SHOOT OR MOVE ? M

WHERE TO ? 3


YOU ARE IN ROOM  3  TUNNELS LEAD TO  3  6  4

SHOOT OR MOVE ? M

WHERE TO ? 6


YOU ARE IN ROOM  6  TUNNELS LEAD TO  4  7  5

SHOOT OR MOVE ? M

WHERE TO ? 7


YOU ARE IN ROOM  7  TUNNELS LEAD TO  6  10  8

SHOOT OR MOVE ? M

WHERE TO ? 10


I FEEL A DRAFT!  함정이 가깝습니다!
YOU ARE IN ROOM  10  TUNNELS LEAD TO  9  11  10

SHOOT OR MOVE ? M

WHERE TO ? 11


I SMELL A WUMPUS!
BATS NEARBY!
YOU ARE IN ROOM  11  TUNNELS LEAD TO  13  14  12

SHOOT OR MOVE ? S

NO. OF ROOMS ? 1

ROOM #? 12

           ↗ 당신의 승리.
AHA! YOU GOT THE WUMPUS! HE WAS IN ROOM 12  성공!
HEE HEE HEE - THE WUMPUS'LL GET YOU NEXT TIME!!
PLAY AGAIN? NO


OK
```

```
3 PRINT TAB( 25);"WUMPUS 2"
4 PRINT TAB( 20);"CREATIVE COMPUTING"
5 PRINT TAB( 18);"MORRISTOWN  NEW JERSEY"
7 PRINT
10 PRINT
15 PRINT
20 REM- WUMPUS VERSION 2
30 DIM S(20,3)
40 DIM L(6),M(6),P(5)
50 PRINT "WANT INSTRUCTIONS";
60 INPUT I$
70 PRINT
80 IF LEFT$(I$,1) <> "Y" THEN 130
100 GOSUB 700
110 REM- CHOOSE AND SET UP CAVE
130 GOSUB 2530
140 DEF FN A(X)=INT(20*RND(1))+1
150 DEF FN B(X)=INT(3*RND(1))+1
160 DEF FN C(X)=INT(4*RND(1))+1
170 REM LOCATE L ARRAY ITEMS
180 REM 1-YOU, 2-WUMPUS, 3&4-PITS, 5&6-BATS
210 FOR J=1 TO 6
220 L(J)=FN A(0)
230 M(J)=L(J)
240 NEXT J
250 REM CHECK FOR CROSSOVERS (IE L(1)=L(2) ETC)
260 FOR J=1 TO 6
270 FOR K=J TO 6
280 IF J=K THEN 300
290 IF L(J)=L(K) THEN 210
300 NEXT K
310 NEXT J
320 REM SET # ARROWS
330 A=5
340 L=L(1)
350 REM- RUN THE GAME
360 PRINT:PRINT "*** HUNT THE WUMPUS ***":PRINT
370 REM-HAZARDS WARNINGS AND LOCATION
380 GOSUB 1230
390 REM MOVE OR SHOOT
400 GOSUB 1400
410 ON O GOTO 430,470
420 REM SHOOT
430 GOSUB 1550
440 IF F=0 THEN 400
450 GOTO 490
460 REM MOVE
470 GOSUB 2150
480 IF F=0 THEN 380
490 IF F > 0 THEN 540
500 REM LOSE
510 PRINT "HA HA HA - YOU LOSE!"
520 GOTO 550
530 REM WIN
540 PRINT "HEE HEE HEE - THE WUMPUS'LL GET YOU NEXT TIME!!"
550 FOR J=1 TO 6
560 L(J)=M(J)
570 NEXT J
580 PRINT "PLAY AGAIN";
590 INPUT I$
595 PRINT
600 PRINT
620 IF LEFT$(I$,1) <> "Y" THEN 3310
640 PRINT "SAME SET-UP ";
650 INPUT I$
660 PRINT
670 IF LEFT$(I$,1) <> "Y" THEN 130
680 GOTO 330
700 REM- INSTRUCTIONS
710 PRINT CHR$(26);TAB( 20);"WELCOME TO WUMPUS II"
720 PRINT "THIS VERSION HAS THE SAME RULES AS 'HUNT THE WUMPUS'."
730 PRINT "HOWEVER, YOU NOW HAVE A CHOICE OF CAVES TO PLAY IN."
740 PRINT "SOME CAVES ARE EASIER THAN OTHERS. ALL CAVES HAVE 20"
750 PRINT "ROOMS AND 3 TUNNELS LEADING FROM ONE ROOM TO OTHER ROOMS."
755 PRINT
760 PRINT "THE CAVES ARE:"
770 PRINT "  0  -  DODECAHEDRON:  THE ROOMS OF THIS CAVE ARE ON A"
780 PRINT "        12-SIDED OBJECT, EACH FORMING A PENTAGON."
790 PRINT "        THE ROOMS ARE AT THE CORNERS OF THE PENTAGONS."
800 PRINT "        EACH ROOM HAVING TUNNELS THAT LEAD TO 3 OTHER ROOMS"
805 PRINT
810 PRINT "  1  -  MOBIUS STRIP:  THIS CAVE IS TWO ROOMS"
820 PRINT "        WIDE AND 10 ROOMS AROUND (LIKE A BELT)."
830 PRINT "        YOU WILL NOTICE THERE IS A HALF TWIST"
840 PRINT "        SOMEWHERE."
850 PRINT
860 PRINT "  2  -  STRING OF BEADS:   FIVE BEADS IN A CIRCLE."
870 PRINT "        EACH BEAD IS A DIAMOND WITH A VERTICAL"
880 PRINT "        CROSS-BAR. THE RIGHT & LEFT CORNERS LEAD"
890 PRINT "        TO NEIGHBORING BEADS. (THIS ONE IS DIFFICULT"
900 PRINT "        TO PLAY)."
910 GOSUB 5000
920 PRINT "  3  -  HEX NETWORK:   IMAGINE A HEX TILE FLOOR. TAKE"
930 PRINT "        A RECTANGLE WITH 20 POINTS (INTERSECTIONS)"
940 PRINT "        INSIDE (4X4). JOIN RIGHT & LEFT SIDES TO MAKE A"
950 PRINT "        CYLINDER. THEN JOIN TOP & BOTTOM TO FORM A"
960 PRINT "        TORUS (DOUGHNUT)."
970 PRINT "        HAVE FUN IMAGINING THIS ONE!!"
980 PRINT
990 PRINT "CAVES 1-3 ARE REGULAR IN THE SENSE THAT EACH ROOM"
1000 PRINT "GOES TO THREE OTHER ROOMS & TUNNELS ALLOW TWO-"
1010 PRINT "WAY TRAFFIC. HERE ARE SOME 'IRREGULAR' CAVES:"
1020 PRINT
1030 PRINT "  4  -  DENDRITE WITH DEGENERACIES:  PULL A PLANT FROM"
1040 PRINT "        THE GROUND. THE ROOTS & BRANCHES FORM A "
1050 PRINT "        DENDRITE - I.E., THERE ARE NO LOOPING PATHS."
1060 PRINT "        DEGENERACY MEANS A) SOME ROOMS CONNECT TO"
1070 PRINT "        THEMSELVES AND B) SOME ROOMS HAVE MORE THAN ONE"
1080 PRINT "        TUNNEL TO THE SAME OTHER ROOM, I.E., 12 HAS "
1090 PRINT "        TWO TUNNELS TO 13."
1100 PRINT
1110 PRINT "  5  -  ONE WAY LATTICE:    HERE ALL TUNNELS GO ONE"
1120 PRINT "        WAY ONLY. TO RETURN, YOU MUST GO AROUND THE CAVE"
1130 PRINT "        (ABOUT 5 MOVES)."
1140 GOSUB 5000
1160 PRINT "  6  -  ENTER YOUR OWN CAVE:   THE COMPUTER WILL ASK YOU"
1170 PRINT "        THE ROOMS NEXT TO EACH ROOM IN THE CAVE."
1175 PRINT
1180 PRINT "            FOR EXAMPLE:"
1190 PRINT "            ROOM #1     ? 2,3,4       - YOUR REPLY OF 2,3,4
1200 PRINT "            MEANS ROOM 1 HAS TUNNELS GOING TO ROOMS:"
1210 PRINT "            2, 3, & 4."
1215 PRINT:PRINT
1220 PRINT "*** HAPPY HUNTING! ***":PRINT"
1225 RETURN
1230 REM
1240 PRINT
1250 FOR J=2 TO 6
1260 FOR K=1 TO 3
1270 IF S(L(1),K) <> L(J) THEN 1340
1280 ON J-1 GOTO 1290,1310,1310,1330,1330
1290 PRINT "I SMELL A WUMPUS!"
1300 GOTO 1340
1310 PRINT "I FEEL A DRAFT!"
1320 GOTO 1340
1330 PRINT "BATS NEARBY!"
1340 NEXT K
1350 NEXT J
1360 PRINT "YOU ARE IN ROOM";L(1);
1370 PRINT "-- TUNNELS LEAD TO";S(L,1);S(L,2);S(L,3)
1380 PRINT
1390 RETURN
1400 REM- CHOOSE OPTION
1410 GOTO 1450
1420 PRINT "ERROR   ";
1430 INPUT Z9
1440 PRINT "";
1450 PRINT "SHOOT OR MOVE ";
1460 INPUT I$
1470 PRINT
1490 IF LEFT$(I$,1) <> "S" THEN 1520
1500 O=1
1510 RETURN
1520 IF LEFT$(I$,1) <> "M" THEN 1420
1530 O=2
1540 RETURN
1550 REM- ARROW ROUTINE
1560 F=0
1570 REM- PATH OF ARROW
1590 GOTO 1630
1600 PRINT "ERROR   ";
1610 INPUT Z9
1620 PRINT "";
1630 PRINT "NO. OF ROOMS ";
1640 INPUT J9
1650 PRINT
1670 IF J9 < 1 OR J9 > 5 OR INT(J9) <> ABS(J9) THEN 1600
1680 FOR K=1 TO J9
1690 PRINT "ROOM #";
1700 INPUT P(K)
1710 PRINT
1730 IF P(K) > 0 AND P(K) < 21 AND INT(P(K))=ABS(P(K)) THEN 1780
```

```
1740 PRINT "ERROR  ";
1750 INPUT Z9
1760 PRINT "";
1770 GOTO 1690
1780 NEXT K
1790 PRINT
1800 REM -  SHOOT ARROW
1810 A=A-J9
1820 A9=L(1)
1830 FOR K=1 TO J9
1840 FOR K1=1 TO 3
1850 IF S(A9,K1)=P(K) THEN 1990
1860 NEXT K1
1870 REM -  NO TUNNEL FOR THE ARROW
1880 A9=S(A9,FN B(1))
1890 GOTO 2000
1900 NEXT K
1910 PRINT "MISSED."
1920 REM -  MOVE WUMPUS
1930 GOSUB 2070
1940 REM -  AMMO CHECK
1950 IF A > 0 THEN 1970
1955 PRINT "YOU HAVE USED ALL OF YOUR ARROWS."
1960 F=-1
1970 RETURN
1980 REM -  SEE IF ARROW IS AT L[1] OT L[2]
1990 A9=P(K)
2000 IF A9 <> L(2) THEN 2040
2010 PRINT "AHA! YOU GOT THE WUMPUS! HE WAS IN ROOM";L(2)
2020 F=1
2030 RETURN
2040 IF A9 <> L(1) THEN 1900
2050 PRINT "OUCH! ARROW GOT YOU!"
2060 GOTO 1960
2070 REM -  MOVE WUMPUS ROUTINE
2080 K=FN C(0)
2090 IF K=4 THEN 2140
2100 L(2)=S(L(2),K)
2110 IF L(2) <> L THEN 2140
2120 PRINT "TSK TSK TSK- WUMPUS GOT YOU!"
2130 F=-1
2140 RETURN
2150 REM -  MOVE ROUTINE
2160 F=0
2170 GOTO 2210
2180 PRINT "ERROR   ";
2190 INPUT Z9
2200 PRINT "";
2210 PRINT "WHERE TO ";
2220 INPUT L
2230 PRINT
2240 IF L < 1 OR L > 20 OR ABS(L) <> INT(L) THEN 2180
2250 FOR K=1 TO 3
2260 REM -  CHECK IF LEGAL MOVE
2270 IF S(L(1),K)=L THEN 2350
2280 NEXT K
2290 IF L=L(1) THEN 2350
2300 PRINT "NOT POSSIBLE - ";
2310 INPUT Z9
2320 PRINT "";
2330 GOTO 2210
2340 REM -  CHECK FOR HAZARDS
2350 L(1)=L
2360 REM -  WUMPUS
2370 IF L <> L(2) THEN 2430
2380 PRINT "... OOPS! BUMPED A WUMPUS!"
2390 REM -   MOVE A WUMPUS
2400 GOSUB 2080
2410 IF F=0 THEN 2430
2420 REM -  PIT
2430 IF L <> L(3) AND L <> L(4) THEN 2480
2440 PRINT "YYYIIIEEEE . . . FELL IN A PIT!"
2450 F=-1
2460 RETURN
2470 REM -  BATS
2480 IF L <> L(5) AND L <> L(6) THEN 2520
2490 PRINT "ZAP--SUPER BAT SNATCH! ELSEWHERESVILLE FOR YOU!"
2500 L=FN A(1)
2510 GOTO 2350
2520 RETURN
2530 REM -  SELECT CAVE
2540 GOTO 2580
2550 PRINT "ERROR   ";
2560 INPUT Z9
2570 PRINT "";
2580 PRINT "CAVE # (0-6) ";
2585 RESTORE
2590 INPUT N
2600 PRINT
2620 IF N<0 OR N>6 OR INT(N) <> ABS(N) THEN 2550
2630 ON N+1 GOSUB 2750,2730 2810,2890,2970,3050,3130
2640 RETURN
2650 REM -  DODECAHEDRON
2670 DATA 2,5,8,1,3,10,2,4,12,3,5,14,1,4,6
2680 DATA 5,7,15,6,8,17,1,7,9,8,10,18,2,9,11
2690 DATA 10,12,19,3,11,13,12,14,20,4,13,15,6,4,16
2700 DATA 15,17,20,7,16,18,9,17,19,11,18,20,1316,19
2710 GOSUB 3240
2720 RETURN
2730 REM -  MOBIUS STRIP
2735 FOR B1=1 TO 1
2737 FOR B2=1 TO 60
2740 READ B0
2742 NEXT B2
2744 NEXT B1
2750 DATA 20,2,3,19,1,4,1,4,5,2,3,6,3,6,7
2760 DATA 4,5,8,5,8,9,6,7,10,7,10,11,8,9,12
2770 DATA 9,12,13,10,11,14,11,14,15,12,13,16,12,16,17
2780 DATA 14,15,18,15,18,19,16,17,20,2,17,20,1,18,19
2790 GOSUB 3240
2800 RETURN
2810 REM -  STRING OF BEADS
2815 FOR B1=1 TO 2
2817 FOR B2=1 TO 60
2820 READ B0
2822 NEXT B2
2824 NEXT B1
2830 DATA 2,3,20,1,3,4,1,2,4,2,3,5,4,6,7
2840 DATA 5,7,8,5,6,8,6,7,9,8,10,11,9,11,12
2850 DATA 9,10,12,10,11,13,12,14,15,13,15,16,13,14,16
2860 DATA 14,15,17,16,18,19,17,19,20,17,18,20,1,18,19
2870 GOSUB 3240
2880 RETURN
2890 REM -  HEX NUT ON TORUS
2895 FOR B1=1 TO 3
2897 FOR B2=1 TO 60
2900 READ B0
2902 NEXT B2
2904 NEXT B1
2910 DATA 6,10,16,6,7,17,7,8,18,8,9,19,9,10,20
2920 DATA 1,2,15,2,3,11,3,4,12,4,5,13,5,6,14
2930 DATA 7,16,20,8,16,17,9,17,18,10,18,19,6,19,20
2940 DATA 1,11,12,2,12,13,3,13,14,4,14,15,5,11,15
2950 GOSUB 3240
2960 RETURN
2970 REM -  DENDRITE W/ DEGENERACIES
2975 FOR B1=1 TO 4
2977 FOR B2=1 TO 60
2980 READ B0
2982 NEXT B2
2984 NEXT B1
2990 DATA 1,1,5,2,2,5,3,3,6,4,4,6,1,2,7
3000 DATA 3,4,7,5,6,10,8,9,9,8,8,10,7,9,11
3010 DATA 10,13,14,12,13,13,11,12,12,11,15,16,14,17,18
3020 DATA 14,19,20,15,17,17,15,18,18,16,19,19,16,20,20
3030 GOSUB 3240
3040 RETURN
3050 REM -  ONE WAY LATTICE
3055 FOR B1=1 TO 5
3057 FOR B2=1 TO 60
3060 READ B0
3062 NEXT B2
3064 NEXT B1
3070 DATA 5,4,8,1,5,6,2,6,7,3,7,8,8,9,12
3080 DATA 5,9,10,6,10,11,7,11,12,12,13,16,9,13,14
3090 DATA 10,14,15,11,15,16,16,17,20,13,17,18,14,18,19
3100 DATA 15,19,20,1,4,20,1,2,17,2,3,18,3,4,19
3110 GOSUB 3240
3120 RETURN
3130 REM -   INPUT YOUR OWN CAVE
3140 FOR J=1  TO 20
3150 PRINT "ROOM #";J;
3160 INPUT S(J,1),S(J,2),S(J,3)
3170 FOR K=1 TO 3
3180 IF S(J,K) > 0 AND S(J,K) < 21 AND ABS(S(J,K))=ABS(S(J,K)) THEN 3210
3190 PRINT "***** ERROR!!!!!"
3200 GOTO 3150
3210 NEXT K
3220 NEXT J
3230 RETURN
3240 REM -  INPUT CAVE
3250 FOR J=1 TO 20
3260 FOR K=1 TO 3
3270 READ S(J,K)
3280 NEXT K
3290 NEXT J
3300 RETURN
3310 END
5000 PRINT:LINE INPUT "ENTER 'RETURN' TO CONTINUE. ";XX$
5010 PRINT CHR$(26)
5020 RETURN
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재미있는 **BASIC 컴퓨터 게임 2**

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